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THIS WORK

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——BY——

H. H. GOODELL and F. TUCKERMAN.

190976

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1884. HARRY D. HOLLAND, Amherst, Mass.
1885. EDWIN W. ALLEN, Amherst, Mass.

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Biographical Sketches of Alumni.

CLASS OF 1871.

GIDEON HAMMOND ALLEN was born 12th December, 1848, at Marion. Engaged in stock farming, landscape gardening, engineering, etc., North Conway, N. H., 1872–75; resident, South Deerfield, 1875–76; agent, Wells, Fargo & Co., at Humboldt, Kan., 1876–80, and at Winfield, Kan., 1880–84; in the insurance business, since 1884. Married, 22d January, 1874, at South Deerfield, Ella Augusta Hastings. One son and a daughter, both deceased. Address, Winfield, Cowley Co., Kan.

Frequent contributor to agricultural journals.

ANDREW LEWIS BASSETT was born 9th March, 1849, at Ware. Asst. Engineer, Mass. Central R. R., 1871–72; dealer in lumber, Cambridge, Pa., 1873–74; cashier, Central Vt. Railroad Co., Brooklyn, N. Y., 1874–83; transfer and general forwarding agent, Central Vt. Railroad Co., N. Y. City, since 1883, and eastern partner, Geo. W. Williams & Co., general merchants, Deming, N. M. Address, Pier 36, East River, N. Y. City.

WILLIAM PERKINS BIRNIE was born 24th December, 1849, at Becket. Contractor, Springfield; conductor, Connecticut Central Railroad Co., 1878–81; salesman, Birnie Paper Co., since 1881. Married, at New Bedford, Mary W. Mathews. One son and a daughter. Address, Springfield, Mass.

WILLIAM HENRY BOWKER was born 3d July, 1850, at Natick; studied at Templeton High School, 1866–67. Engaged in journalism on the *Providence Daily Journal*, 1871; taught a grammar

NOTE.—The names of undergraduates who died *in course* are inserted with their respective classes.

When no State is mentioned Massachusetts is to be understood.

school, at Barre, 1871–72; on the *Amherst Record*, 1872; in the firm of Bowker & Sparrow, manufacturers of fertilizers, Boston, 1873–74; of Jackson & Bowker, Boston, 1875-76; of W. H. Bowker & Co., manufacturers of the Stockbridge manures, etc., 1876–79; President of the Bowker Fertilizer Company, Boston, since 1879 (*present cap.* $600,000, sales for 1884, 32,000 tons). Vice-President of the New York Fertilizer and Chemical Exchange; Director (formerly president) in the Sturtevant Mill Co. and in the Putnam Water Co.; formerly a director in the Wheeler Reflector Co.; Trustee of the Mass. Agricultural College, since 1885; Vice-President for Suffolk of the Bay State Agr'l Society; Member of the Amer. Assoc. for the Advancement of Science, and of the Mass. Horticultural Society. Married, 7th September, 1875, at Barre, Charlotte J. Ryder. One son and two daughters. Address, Bowker Fertilizer Co., 43 Chatham St., Boston.

How Pure Milk may be supplied to Boston. (*Pamphlet, Boston*, 1880, *reprinted in the Boston and New York daily papers, and in most of the New England agricultural journals.*)

Lilley Brewer Caswell was born 29th March, 1848, at Fitchburg; prepared for college at Fitchburg High School. Civil Engineer, Fitchburg, 1871–73, and at Athol since 1873; taught school during the winter for several years at Princeton, Prescott, S. Royalston, and Royalston Centre. Member, and for a time chairman, of the School Committee, Athol, since 1880; is a Justice of the Peace and a Trial Justice for Worcester County. Married, 2d January, 1877, at Athol, Mary Elizabeth Keyes. Address, Athol, Mass.

Compiled "The Miller's River District Directory". Our Forests. (*Trans. Worcester North Agr'l Soc.*, 1873; *Rept. Mass. Board of Agric., 1872–3.*) Also written articles for the newspapers.

Homer Lucian Cowles was born 8th January, 1850, at Hadley; prepared for college at Amherst High School. Engaged in farming at Hadley, since 1871. Married, 28th December, 1880, at Amherst, Maria N. Kingman. One son and a daughter. Address, Amherst, Mass.

Emory Alexander Ellsworth was born 3d August, 1852, at Hardwick; studied at Barre High School, 1864–67. Clerk, Francis A. Fales, provision dealer, Troy, N. Y., 1871–72; in the employ

of E. C. Davis, civil engineer, Northampton, 1872–74; engaged in completing Holyoke Water Works, 1874; in the firm of Davis & Ellsworth, civil engineers, Holyoke, 1874–76; farming, Barre, 1876–79; Civil Engineer, New Haven & Northampton Railroad Co. (Turner's Falls Branch), 1879–80; in the office, D. H. & A. B. Tower, architects, etc., Holyoke, 1880–83; Civil Engineer and Architect, Holyoke, since 1883; City Engineer, Holyoke, 1884–86. Married, 30th September, 1874, at Florence, Lucy J. Bradford. One daughter and a son. Address, 164 High St., Holyoke, Mass.

Has written serial articles, etc., for *Scientific Farmer* and *New England Farmer*, and on engineering subjects for *Polytechnic Review*, New York.

JABEZ FRANKLIN FISHER was born 30th August, 1850, at Cambridge. Civil Engineer, Fitchburg, 1871–74; freight clerk and cashier, Fitchburg Railroad Co., Fitchburg, since 1874. Married, 20th August, 1879, at Leominster, Clara A. Bernard. One daughter and a son. Address, Fitchburg, Mass.

GEORGE ELWYN FULLER was born 6th September, 1849, at Bernardston; prepared for college at Amherst High School. Civil Engineer, Toledo, O., 1873-74; Civil Engineer and real estate agent, Greenfield, 1876 —? When last heard from engaged in work at the Hoosac Tunnel. Address unknown.

*FRANK WARREN HAWLEY was born 28th August, 1851, at Hadley; prepared for college at Amherst High School. For a year after graduation he was employed on a farm at Barre, subsequently removing to Springfield. Here he engaged in the lumber trade for about two years and then removed to Chicago, Ill., where he secured a position as shipping clerk in the same business. After remaining three years he returned to Springfield and became manager of a lumber yard at Brightwood, a suburb of the city. January, 1881, found him again at the West in the employ of S. A. Brown & Co., lumber dealers, Fayetteville, Ark.; later he became head salesman and manager of the business at Springfield, Mo. Died from congestive apoplexy, at Belchertown, 28th October, 1883. Married, 21st November, 1872, Lora E. Bennett, of Belchertown.

*FREDERICK ST. CLAIR HERRICK was born 13th March, 1850, at N. Berwick, Me. Soon after graduation he bought a farm at

Methuen, which in a few years under his careful management became known as a model one. In 1882 he was offered the professorship of agriculture at the Mass. Agricultural College which, however, he declined. Died of cancer, at Lawrence, 19th January, 1884. Married, 9th February, 1875, Isabel J. Ball, of Amherst. Two daughters.

GEORGE LEONARD, LL.B., was born 5th December, 1849, at Springfield. Studied law with Messrs. Marston & Crapo, of New Bedford, and at Boston University Law School, 1871–76; LL.B., Boston Univ., 1875; practiced at Springfield, since 1876. Clerk of Police Court of Springfield, and of Supreme Judicial and Superior Courts for Hampden County, since 1884. Married, Miss Marston of New Bedford. Address, Springfield, Mass.

ROBERT WORTHINGTON LYMAN, LL.B., was born 27th March, 1850, at Northampton; studied at Easthampton High School. Engaged in surveying, teaching, farming, etc., Mass., Vt., Conn., and Ind., 1871–77; studied law with Bond Bros. & Bottum, of Northampton, 1876–78, and at Boston University Law School, 1878–79; LL.B., Boston Univ., 1879; admitted to the Massachusetts bar, in Hampshire County, June, 1878; practiced at Belchertown, since 1879; Special Justice, District Court of Hampshire, since 1882. Lecturer on Rural Law, Mass. Agr'l Coll., 1882 and 1886; First Lieut., 2d Reg. Mass. Vol. Militia, 1876. Married, 8th June, 1882, at Belchertown, Diantha A. Bridgman. One son. Address, Belchertown, Mass.

*JAMES HENRY MORSE was born 10th March, 1850, at Salem; studied at Salem High School. He was graduated from college at the head of his class. Entered the employ of Mr. C. A. Putnam, city engineer of Salem, soon after leaving college, with whom he remained until his death. Died of Bright's disease, at Salem, 21st June, 1883. Married, 12th December, 1878, Susan Augusta Ballard, of Waverley.

LEWIS ABEL NICHOLS was born 26th August, 1851, at Florence, Italy. Civil Engineer, Somerville, 1871; Engineer, Mass. Central Railroad, 1872–73; Engineer, Danvers, 1873-74; City Engineer, Chelsea, 1875–76; Engineer, Boston, 1877–78; Civil

Engineer, Atchison, Topeka and Santa Fé R. R., and Atlantic and Pacific R. R., Arizona and New Mexico, 1879–80; on the California Southern R. R., San Diego Co., Cal., 1881–82; Mexican Central R. R., Tampico Dio, Mexico, 1883–84; contractor, South Framingham, since 1885. Married, 12th November, 1879, at Danvers, Carrie W. Putnam. Address, Danvers, Mass.

ARTHUR DICKINSON NORCROSS was born 7th November, 1849, at Monson; studied at Monson Academy, 1865–66. Manufacturer of straw goods, Monson, 1872–74; farmer, 1876; postmaster, Monson, since 1880. Married, 5th January, 1882, at Rochdale, Augusta V. Kinney. One daughter. Address, Monson, Mass.

JOEL BARDWELL PAGE was born 5th September, 1850, at Conway; prepared for college at Conway Academy. Engaged in farming at Conway, since 1871. Has been Selectman, Assessor, and Registrar of Voters; is a Trustee of the Franklin County Agricultural Society. Married, (1) 17th March, 1873, Mary E. Hubbard, of Miller's Falls, who died 12th June, 1882; (2) 28th March, 1883, Clara I. Bradford, of Hatfield. Two sons. Address, Conway, Mass.

SAMUEL HOWARD RICHMOND was born 13th August, 1849, at Myricks (Taunton); prepared for college at Taunton High School. Civil Engineer at Taunton, 1871–74; farmer, Myricks, 1875; book-keeper, W. H. Bowker & Co., Boston, 1876; taught penmanship, French's Business College, Boston, 1876–77, and at Schofield's Business College, Providence, R. I., 1877-78; studied medicine, 1877–78; in the office of the *Massachusetts Ploughman*, Boston, 1879, and in charge of the eastern office of the *Chicago Medical Review*, New York, 1880–81; farmer and surveyor, Altoona and Higley, Orange Co., Fla., since 1881. Has been Justice of the Peace in Mass., and Trial Justice in Fla., 1881–85; Notary Public, since 1885; deputy clerk of Circuit Court, Marion County, Fla.; school trustee, district of Linadale, three years. Married, 3d February, 1871, at N. Leverett, Abbie E. Wales. Divorced, 30th April, 1881. One son and two daughters, one daughter deceased. Residence, Linadale, Fla. Address, Higley, Orange Co., Fla.

WILLIAM DELANO RUSSELL was born 28th December, 1851, at Sunderland. Connected with Montague Paper Company, since

1872. Director in the Turner's Falls Paper Co., 1879; in the Montague Paper Co., 1884, and in the Crocker National Bank, 1886. Vice-President and Treasurer of the Montague Paper Co., 1885. Married, 7th December, 1882, at Webster, Kate M. Shumway. Address, Montague Paper Co., Turner's Falls, Mass.

EDWIN BILLINGS SMEAD was born 16th January, 1849, at Greenfield. Taught school, 1871-72; Asst. Civil Engineer, State Line and Juniata Narrow Gauge Railroad, Pa., 1872; officer, House of Refuge, Baltimore, Md., 1872; engaged in the coal business, Baltimore, Md., 1873-83; in the grain trade, Bushy, Carr & Co., Baltimore, Md., 1883-84; general manager of the Watkinson Juvenile Asylum and Farm School, Hartford, Ct., since 1884. Married, (1) 12th November, 1874, Annie E. Whitney, who died 25th January, 1876; (2) 30th October, 1878, Rosleonia Whitney. One son, deceased. Address, Hartford, Ct.

LEWIS ADDISON SPARROW was born 2d May, 1847, at West Medway; studied at Kimball Union Academy, Meriden, N. H., 1865-66. Taught school at Plainfield, 1872; graduate student in Chemistry and Asst. in Chemical Dept., Mass. Agr'l Coll., 1872; in the firm of Bowker & Sparrow, manufacturers of fertilizers, Boston, 1873-74; travelling salesman for A. Wheeler, Boston, 1874-75; Chemist for W. H. Bowker & Co., 1876-82; in the firm of Judson & Sparrow, manufacturers of fertilizers, Boston, since 1882. Married, 1st December, 1878, Carrie E. Webb, of South Deer Isle, Me. One son. Address, Judson & Sparrow, 38 South Market St., Boston.

GEORGE PORTER STRICKLAND was born 2d August, 1851, at Saco, Me. Engaged in the lumber business, Red Wing, Minn., and in the employ of St. Paul, Stillwater and Taylor's Falls R. R., St. Paul, Minn., 1871-72; Engineer in charge of Pile Bridge on Chicago, Milwaukee and St. Paul R. R., Winona, Minn.; private clerk, J. B. Sargent, Esq., Merrimac, 1872; travelled in California, Oregon, and Washington Territory, 1872-73; machinist, Swamscott Machine Co., Newmarket, N. H., 1873-76; Engineer, Merrimac Felt Shoe Co., Merrimac, 1876-77; machinist, Seymour, Sabin & Co., Stillwater, Minn., 1877-80; same, Red Wing, Minn., 1880; machinist, Minneapolis and St. Louis R. R., Minneapolis,

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Minn., 1880-83, and St. Paul, Minneapolis and Manitoba R. R., St. Paul, Minn., since 1883. Married, 26th June, 1875, at Epping, N. H., Jennie Pease, of Richmond, P. Q. Two sons. Address, 850 Courtland St., St. Paul, Minn.

EDGAR ELIAB THOMPSON was born 15th September, 1849, at Hopkinton; graduated at Hopkinton High School, 1867; assistant teacher, High School, one year. Clerk in a drug store, 1871–78; teacher, country high school, Bellingham, 1878–79; master of Franklin School, East Weymouth, since 1879. Studied Physics with Professors Dolbear and Hooper, Tufts College, College Hill. Treasurer of the Norfolk County Masters' Club. Married, 23d November, 1880, at Boston, Anna L. Adams. Address, East Weymouth, Mass.

GEORGE HOMER TUCKER was born 10th September, 1849, at Sparta, Pa. Surveyer, book-keeper, and farmer, Western Penn., 1871-78; City Engineer, Corry, Pa., 1873; student, Iron City Commercial College, Pittsburgh, Pa., 1875; engaged in farming, Dakota, 1878–80; Civil Engineer, Fargo, Dak., 1880-85. Has been notary public. Address, West Spring Creek, Pa.

WILLARD CARROLL WARE was born 3d October, 1849, at Salem. Gardener, Mass. Agr'l Coll., 1871-72; farm supt. at Hamilton, one year; clerk, Freight Dept., Eastern R. R., few months; engaged in the clothing business at Boston, Springfield, and New York City, since 1874; manager, Boston & Portland Clothing Co., Portland, Me., since 1880. Married, 28th April, 1875, at Hamilton, Lydia A. Dane. Address, 255 Middle St., Portland, Me.

WILLIAM WHEELER was born 6th December, 1851, at Concord; prepared for college at Concord High School. Leveller and transitman on the N. Y. and Oswego Midland R. R., Delaware and Sullivan Counties, N. Y., 1871; Assistant Engineer, Mass. Central R. R., 1871–72; Resident Engineer in charge of Hardwick Division, M. C. R. R., 1872–73; Civil and Hydraulic Engineer, Boston, 1873–76; Professor of Mathematics and Civil Engineering, Imperial College of Agriculture, Sapporo, Jap., 1876–80; acting President of the same, 1877, and President, 1878–80; Civil Engineer, Imperial Colonial Department, Japan, 1878–80;

established the Wheeler Reflector Company, 1880; Civil Engineer, Boston, since 1883; Water Commissioner, Town of Concord, since 1880; Trustee of the Mass. Agricultural College, 1880–82; President of the Wheeler Reflector Company, since 1881; member and secretary of the Concord School Committee, 1882–85; Trustee of Middlesex Institution for Saving, since 1884; Director in the Putnam Water Company, Putnam, Ct., since 1885. Married, 17th July, 1878, at Concord, Fannie Eleanor Hubbard. Address, Concord, Mass.

Utilization of Sewage. (*Mass. Ploughman*, 1873-74.)

On Proposed Water Supply of Concord. (*Town Report*, 1874.)

On Construction of Water Works, Concord. (*Town Report*, 1875.)

On Introduction of Public Water Supply, Hingham. (*Print. by Town*, 1876.)

Report on Transportation Routes between Sapporo and Tide-Water. (*First Annual Report Sapporo Agr'l Coll.*, 1877.)

Register of Meteorological Observations, Japan, 1876-77. (*First Annual Report Sapporo Agr'l Coll.*, 1877.)

Second Annual Report of Sapporo Agr'l College. (*Japan*, 1878.)

Register of Meteorological Observations, Japan, 1878. (*2d Report Sapporo Agr'l Coll.*, 1878.)

Third Annual Report of Sapporo Agr'l College. (*Japan*, 1879.)

Register of Meteorological Observations, Japan, 1879. (*3d Report Sapporo Agr'l Coll.*, 1879.)

Japan's Colonial College. (*The Cycle*, 1880.)

On Extension of Concord Water Works. (*Town Report*, 1884.)

On the Improved Sewerage System for Mass. State Prison. (*Annual Report of Prison Coms.*, 1885.)

Report on Sewerage for Gardner. (*Print. by Town*, 1885.)

On the Introduction of a Public Water Supply, Canton. (*Print. by Town*, 1885.)

On Improved Sewerage for Marlboro. (*Print. by Town*, 1886.)

Frank Le Prelet Whitney was born 6th July, 1852, at Baltimore, Md.; studied at West Newton English and Classical School, 1865-67. Engaged in farming and floriculture, Hingham, 1871–81; general agent, residence, Providence, R. I., 1881–83; in the boot and shoe business, Boston, since 1883; residence, Jamaica Plain. Has been secretary of the Hingham Agr'l and Hort. Society. Married, 9th June, 1881, Mary E. Brooks. One son. Address, 2179 Washington St., Boston.

CLASS OF 1872.

BURLEIGH COOK BELL was born 11th September, 1851, at Beverley. Druggist at Charlestown, Boston, Vallejo, Cal., Bakersfield, Cal., and Arcata, Cal.; druggist at San Francisco, Cal., since 1880. Married, 3d May, 1880, at Sacramento, Cal., Emma Fry. One daughter. Address, 16th and Howard Sts., San Francisco, Cal.

WILLIAM FRANKLIN BRETT was born 13th September, 1852, at Wareham; studied at public school, W. Bridgewater. Engaged in business, Fall River, 1873–80; clerk, Boston, 1880–86; merchant, Danbury, Ct., since 1886. Married. One son and a daughter. Address, Danbury, Ct.

JOHN WESLEY CLARK was born 1st November, 1849, at North Hadley; studied at Hopkins Academy, Hadley, 1866–67. Nurseryman, T. C. Maxwell & Bros., Geneva, N. Y., 1872; foreman of nursery, Quincy, Ky., and Brenham, Tex., 1874–77; Supt. of Nursery, Mass. Agr'l Coll., 1877–82; Instructor in Agriculture and Farm Supt., Mass. Agr'l Coll., 1883-84; Supt. of Conn. Valley Orchard Co., Deep River, Ct., 1884-85; fruit grower, N. Hadley, since 1885. Married, 14th March, 1878, at Amherst, Mary E. Roberts. One son and a daughter. Address, N. Hadley, Mass.

Has contributed articles on the following subjects to agricultural journals:— "Apples"; "Cherries"; "Grapes"; "Peaches"; "Fruit Growing in Texas"; "Persimmons;" "Qualities of Different Breeds of Cattle"; "Origin of our Common Farm Plants"; "Practical suggestions to Apple Growers."

FRANK COLTON COWLES was born 20th October, 1852, at Amherst; prepared for college at Amherst High School. Steward, State Idiot Asylum, Syracuse, N. Y., 1873; in the employ of The Hills Co., Amherst, 1875–77; shipping clerk, Marchant & Brigham, Palmer, 1878–80, and Gage & Reynolds, Monson, 1881; Civil Engineer, city engineer's office, Worcester, since 1882. Address, City Hall, Worcester, Mass.

JOHN CLARENCE CUTTER, M.D., was born 10th July, 1851, at Warren; student at Wesleyan Academy, Wilbraham, 1866–67. Clerk, J. B. Lippincott & Co., Philadelphia, Pa., 1872–73; employed on a farm, 1873; studied, Medical Dept., Dartmouth Col-

lege. 1873–75, and Harvard Medical School, 1875–76; M.D., Harvard, 1877; house officer, Boston City Hospital, 1876–77; Fellow of the Mass. Medical Soc., 1876; physician, Warren, 1877–78; Professor of Physiology and Comparative Anatomy, Imperial College of Agriculture, Sapporo, Jap., and consulting physician to the Colonial Dept., since 1878; acting President of the college, 1882. Member of Roma já Kai, and Sei-I-Kai, Tokyo. Address, Sapporo, Japan.

Human Endurance: Twenty-eight days exposure in March and April; twenty-five without food. (*Boston Med. and Surg. Jour.*, July, 1880.)

Medical Education in Japan. (*Phil. Med. Times*, July, 1880.)

The Medical College of Japan. (*Ibid.*, Sept., 1880.)

Western Medicine in Japan. (*Ibid.*, Sept., 1880.)

Myopia in Japanese Students. (*Rep. Sapp. Agr'l Coll.*, 1880-81.)

The Japanese Pharmacopæia. (*Boston Med. and Surg. Jour.*, May, 1881.)

Comprehensive Anatomy, Physiology and Hygiene, with Instruction on the Effects of Stimulants and Narcotics. Phila., 1884.

Lessons in Hygiene-Physiology and Stimulants and Sedatives. Phila., 1885.

Anatomy, Physiology and Hygiene, with Scientific Instruction on the Effects of Narcotics and Stimulants. Phila., 1886.

Revised and edited, in 1885, "Analytic Anatomy, Physiology and Hygiene", vols. II. and III., by Calvin Cutter, M.D.

Has contributed articles to Japanese and American newspapers.

Edward Norris Dyer was born 22d July, 1850, at Hingham; prepared for college at Somerville High School. Teacher at E. Abington, 1872–73, and N. Weymouth, 1873–78; teacher and supt. of schools, Kohala, H. I., since 1878; studied theology at Kohala, H. I. with Rev. H. S. Jordan; ordained at Honolulu, H. I., 14th Feb., 1886. Married, 25th December, 1876, at N. Weymouth, Fannie E. Bartlett. Three sons and a daughter. Address, Kohala, H. I.

Seven Years in Hawaii. (*Bulletin*, Honolulu, 1885.)

Isaac Henry Easterbrook was born 23d May, 1849, at Boston; studied at the Boston Latin School, 1866–68. Assistant principal, Monson State Primary School, Monson, 1872; book-keeper, Hingham, 1872–76; engaged in farming at Diamond Hill, R. I., since 1876. Married, (1) 1872, at North Brookfield, Annie P. Preble; (2) 1879, at Dudley, Emma F. Davis. One son and two daughters. Address, Arnold's Mills, R. I.

Edward Ransom Fiske was born 30th December, 1850, at Enfield. Commercial traveller for Folwell Brother & Co., 1872–80,

and a member of the firm, since 1880. Married, 20th December, 1876, at Belchertown, Caroline P. Holland. Address, 625 Chestnut St., Philadelphia, Pa.

CHARLES OTIS FLAGG was born 10th August, 1851, at Westminster; studied at Westminster Academy, 1867. Farming, N. Amherst, 1872; superintendent, Market Garden, Montgomery, Ala., 1872–73; farming, Westminster, 1873–75; foreman, milk farm, Diamond Hill, Cumberland, R. I., 1875–76; farming under the name of Easterbrook & Flagg, Diamond Hill, 1876–80; on the Belcher Farm, Abbott Run, since 1880. Member of the School Committee, since 1881, and chairman of the Board, 1885. Married, 15th March, 1877, at Cumberland, Celinda Evelyn Alexander. One daughter and a son. Address, Abbott Run, R. I.

RICHARD BAXTER GROVER was born 3d August, 1851, at Woonsocket, R. I. Ticket agent, Boston and Providence R. R., Boston, 1876; studied theology at Andover Theological Seminary, 1877–81; graduated, Andover, 1881; ordained, 4th Oct., 1881; pastor, First Congregational church, Ludlow, Vt., 1881–84; pastor, Congregational church, Newburyport, 1884–85; asst. pastor, Old South church, Boston, since 1885. Married, 26th June, 1878, Alice Broughton, of Jamaica Plain. Address, Old South church, Boston.

LEMUEL LE BARON HOLMES was born 26th July, 1852, at Mattapoisett; studied at Pierce Academy, Middleborough, 1868. Studied law with Stetson & Greene, at New Bedford, 1872–75, and was admitted to the Massachusetts bar in Sept., 1875; lawyer, in firm of Stetson & Greene, since 1876; residence, since 1876, New Bedford. Town clerk of Mattapoisett, 1873–74; Justice of the Peace, Notary Public, Special Justice, Fourth District, Court of Plymouth, and Commissioner for the State of Illinois. City Solicitor, New Bedford, for the last five years. Married, March, 1879, at Mattapoisett, Eliza W. Harlow. Address, care Stetson & Greene, New Bedford, Mass.

Revised the City Ordinances of New Bedford.

FRANCIS ELLIOT KIMBALL was born 29th May, 1848, at Westboro; studied at Nichols Academy, Dudley, 1864–67. Clerk in Cincinnati, O., 1873; book-keeper, Worcester, since 1874. Member

of the Mechanics Association, Worcester. Married, 16th March, 1875, at Worcester, Jennie A. Greene. Address, Worcester, Mass.

RUSSELL WOLCOTT LIVERMORE, LL.B., was born 9th February, 1849, at Mansfield, Ct. Engaged in teaching at Cromwell, Ct., 1872–73; Yale Law School, 1873–75; LL.B., Yale, 1875; lawyer, Toledo, O., 1875–82; farmer, merchant, manufacturer of turpentine, and lawyer, Pates, Robeson Co., N. C., since 1882. Married, 6th May, 1880, at Toledo, O., Elizabeth Taylor Hayes. One daughter. Address, Pates, Robeson Co., North Carolina.

GEORGE MACKIE, M.D., was born 12th February, 1850, at New Bedford. Studied, Medical Dept., Dartmouth College, 1873, and Long Island College Hospital, Brooklyn, N. Y., 1874; M.D., L. I. Coll. Hosp., 1874; Fellow of the Mass. Med. Soc., 1882; physician, Attleboro, since 1875. Member and chairman, Attleboro Board of Health, four years; has been vice-president, North Bristol District Medical Society, one year. Married, 24th December, 1875, Laura V. Gustin. One son. Address, Attleboro, Mass.

Written the Reports of the Attleboro Board of Health for three years.

SAMUEL TAYLOR MAYNARD was born 6th December, 1845, at Hardwick. Engaged in the nursery and florist business, with W. C. Story, 1872–73; gardener, Mass. Agr'l Coll., 1873–79; Associate Professor of Horticulture, Mass. Agr'l Coll., 1874–79; Professor of Botany and Horticulture, and Instructor in Microscopy and Drawing, Mass. Agr'l Coll., since 1879; Superintendent of Horticultural Experiments, Microscopist and Draughtsman, Mass. Agr'l Experiment Station, Amherst, since 1882. Married, 30th December, 1873, at Westboro, Mary E. Eddy. One son and a daughter. Address, Amherst, Mass.

Experiments with different varieties of potatoes. (*12th Ann. Rept. Mass. Agr'l Coll.*, 1875.)

Grasses and forage plants on station grounds. (1st *Rept. Mass. Agr'l Expt. Station*, 1883.)

Observations in Regard to Insects Injurious to the Apple. (*2d Rept. Mass. Agr'l Expt. Station*, 1884.)

Notes upon Insects Injurious to Farm and Garden Crops. (*Ibid.*, 1884.)

Observations regarding the Vitality of the Seed of various Weeds, and the Causes of Certain Diseases of Grapes. (*Ibid.*, 1884.)

Vitality of Seeds as Affected by Age. (*Ibid.*, 1884.)

The Destruction of Peach Buds by Cold. (*Ibid.*, 1884.)

The Cultivation of the Peach. (*Proc. N. J. Hort. Soc.*)

Utilization of Waste Lands of New England for the Cultivation of Fruits and Forestry. (*Proc. Mass. Hort. Soc.*)

The Practical Fruit Grower. Springfield, 1886, pp. 112.

Also numerous contributions to *Scientific Farmer; New England Farmer; Massachusetts Ploughman; N. E. Homestead; Our Country Home*, etc.

HERBERT ELLIS MOREY was born 21st April, 1848, at Malden; graduated at Malden High School, 1866. In the employ of Morey, Smith & Co., Boston, 1872–81; member of the firm, since 1881; residence, Malden, since 1872. Married, 11th August, 1884, at Orfordville, N. H., Abby E. Beal. One son and two daughters. Address, 49 Haverhill St., Boston.

WILLIAM RUSSELL PEABODY was born 15th August, 1849, at Randolph; studied at Highland Military Academy, Worcester, 1864?, and St. Paul's School, Concord, N. H., 1865?. Tutor, Newport, R. I., 1872–73; engaged in Railroad service in Nebraska, 1873–75, and in Kansas, since 1875. General agent, Atchison, Topeka and Santa Fé Railroad, since 1875. Married, 30th April, 1878, at Atchison, Kan., Sara Miller Keith. One son. Address, Atchison, Kan.

FRANK BATELLE SALISBURY was born 9th April, 1851, at Sherborn; studied at school, West Newton, 1868. Farmer, Sherborn, 1872–74; engaged at the gold fields, Natal, South Africa, 1874–76; general trader, Kimberley Diamond Fields, S. A., and Beaconsfield Diamond Fields, S. A., since 1876. Married, in 1882, at Kimberley Diamond Fields. No children. Address, Beaconsfield Diamond Fields, South Africa.

ELLIOT DWIGHT SHAW was born 20th May, 1851, at Chicopee. Taught a district school, 1872–73; teacher, Westfield Normal School, 1873; engaged in the grain business, Chicopee, 1873–74; florist, Paterson, N. J., 1874; florist and market gardener, Chicopee, 1874–79; florist, Holyoke, since 1879. Married, 26th November, 1873, at Chicopee, Annie M. Bingham. Two sons. Address, Holyoke, Mass.

GEORGE HENRY SNOW was born 29th August, 1847, at Leominster; prepared for college at Leominster High School. En-

gaged in farming, 1872; teaching, 1872–73; farmer, 1873; supt. of W. P. Phillips' farm, N. Andover, 1873–74; farmer, 1874–75; Supt., Rhode Island State Farm, Cranston, R. I., 1875–76; farmer, 1876–77; living at Detroit, Mich., 1877; farmer and dealer in wood and lumber, Leominster, since 1877. Member, Board of Assessors, Leominster, since 1884. Address, Leominster, Mass.

Frederick Maxwell Somers was born 1st October, 1850, at Portland, Me. Engaged in stock raising, and editor, *Leavenworth Times*, Kansas, 1872–75; political correspondent, *San Francisco Chronicle*, 1875; *Argonaut*, 1876, and *Californian*, 1876–80. Travelled in Europe as a general correspondent of N. Y. and San Francisco journals, 1881. At present occupied in literary and financial work, N. Y. City. Has been president of the San Francisco Press Assoc. Address, 47 Exchange Place, N. Y. City.

Samuel Clarence Thompson was born 4th April, 1851, at Roxbury; studied at Southboro High School, 1863–68. Engineer, Boston Water Works, 1872–78; inspector of construction, same, and on Natick Water Works, etc., 1878–80; book-keeper, Home Sewing Machine Co., Pittsburg, Pa., 1880; in the wholesale clothing business, Minneapolis, Minn., 1880; Asst. Engineer, South Florida Railroad, Longwood, Fla., 1880; Acting Engineer, Roadmaster, and Acting Supt., same, 1880–81; engaged in railroad surveying, Penn., 1881; in city engineer's office, Lowell, 1881–83; Asst. Engineer, Dept. Public Parks, N. Y. City, since 1883. Married, 5th May, 1875, at Natick, Alice L. Fairchild. One son. Address, 62 East 127th St., N. Y. City.

Henry Wells was born 14th July, 1850, at Stockbridge; studied at Williams Academy, Stockbridge, 1865–67. Engaged in civil engineering and freight transportation at Stevens Point, Wis., 1873–74; Rochester, N. Y., 1874–82; St. Louis, Mo., 1883–84. Engaged in introducing American machinery into England, at London, 1885–86; returned to St. Louis, Mo., 1886. Address, Blue Line, Fast Freight Office, Chicago, Ill.

William Channing Whitney was born 11th April, 1851, at Harvard; prepared for college at Lawrence Academy, Groton. Architectural draughtsman, Boston, 1872–77, and Architect, Min-

neapolis, Minn., since 1878. Vice-President of the Minnesota Architectural Association. Married, 6th October, 1881, at Watertown, Alma C. Walker. One daughter. Address, Tribune Building, Minneapolis, Minn.

CLASS OF 1873.

FREDERICK CORNELIUS ELDRED was born 7th January, 1849, at Sandwich; prepared for college at Sandwich High School. Fire insurance broker, 1873–77; clerk in woodware commission house, 1877–79; clerk in wholesale toy store, 1879–82; merchant in toys and novelties, since 1882. All of the above in New York City. Residence, since 1873, at Bergen Point, N. J. Address, 128 Chambers St., N. Y. City.

WALTER SHERMAN LELAND was born 27th August, 1852, at Sherborn. Engaged in farming, 1873–79; officer at the Mass. State Prison (now Mass. Reformatory), Concord, since 1879. Address, Warnerville, Mass.

ASAHEL HUBERT LYMAN was born 17th April, 1853, at Huntington. Studied medicine, College of Physicians and Surgeons, N. Y. City, 1876; druggist, Manistee, Mich., since 1878. Married, 17th September, 1878, at Westminster, Vt., Julia E. Barnard. One daughter. Address, 149 West River St., Manistee, Mich.

GEORGE WESTGATE MILLS, M.D., was born 26th September, 1852, at Medford; prepared for college at Medford High School. Drug clerk, Medford, and medical student, Harvard Medical School, 1873–79; M.D., Harvard, 1879; physician, Medford, since 1879. Married, 11th August, 1880, at Medford, Anna Burke Pratt. Two daughters. Address, Medford, Mass.

JOHN BACON MINOR was born 15th September, 1853, at Bridgeport, Ct.; prepared for college at New Britain High School, Ct. Graduate student in Chemistry, Mass. Agr'l Coll., 1873–74; bookkeeper, 1874; order clerk, Union Manufacturing Co., 1875; export clerk, Russell & Erwin Mfg. Co., 1877–85; in the firm Minor, Nichols & Co., manufacturers of paper boxes, since 1885. All of the above at New Britain, Ct. Member of the New Britain Scien-

tific Assoc. Married, 24th May, 1877, at Worcester, Jennie L. Eldred. Two daughters. Address, Minor, Nichols & Co., New Britain, Ct.

DAVID PEARCE PENHALLOW was born 25th May, 1854, at Kittery Point, Me. Second Asst. Engineer, Portsmouth and Dover R. R., 1873–74; graduate student in Botany and Chemistry, 1874–76, and Assistant in Chemical Dept., Mass. Agr'l Coll., 1875–76; Professor of Botany and Chemistry, Imperial College of Agriculture, Sapporo, Jap., 1876–80, and acting President of the same, 1879–80; Professor in charge of Summer School of Botany, Harvard Coll., 1881; Botanist and Chemist at Houghton Farm Expt. Station, Mountainville, N. Y., 1882–83; Lecturer in Botany, McGill University, Montreal, Ca., 1883–84, and appointed Professor of Botany and Vegetable Physiology, McGill University, 1884; Director of Montreal Botanic Garden, since 1884; Editor of *Canadian Record of Science*, since 1885. Vice-President, for Quebec, of the Amer. Horticultural, and the Amer. Pomological Societies; Cor. Sec. of the Montreal Horticultural Society; Fellow of the Royal Society of Canada, and of the Amer. Assoc. for the Advancement of Science; Member of the Boston Soc. of Nat. Hist., of the British Assoc. for the Advancement of Science, of the Montreal Nat. Hist. Soc., and of the Montreal Athenæum. Married, 4th May, 1876, at Amherst, Sarah A. Dunlap. One son. Address, Montreal, Ca.

Botanical Contributions. (*Scientific Farmer*, Vol. I., pp. 16, 43, 57, 68, 116 *and* 127. 1876.)

Cercidiphyllum Japonicum. (*Gardener's Monthly*, Nov., 1879.)

Fabrication of Aino Cloth. (*Amer. Nat.*, Aug., 1880.)

Note on a few of the Useful Plants of Northern Japan. (*Amer. Nat.*, Feb., 1881.)

The Manufacture of *Miso*. (*Kansas City Review*, Nov., 1881.)

Phenomena of Growth in Plants. (*Proc. Amer. Assoc.*, 1881.)

Temperature of Trees. (*Proc. Boston Soc. Nat. Hist.*, Vol. XXI. 1881.)

Tables for Students and Beginners in Vegetable Histology. Boston, 1882.

Yellows in Peach Trees. (*Proc. Mass. Hort. Soc.*, 1882.)

Meteorology and Soil Temperatures. (*Houghton Farm*, Ser. I., No. 1. 1882.)

Yellows in Peaches and Normal Condition of Vegetable Structure with reference to Cell Contents. (*Ibid.*, Ser. III., Nos. 1 and 2. 1882.)

Peach Yellows. Note on Peach Curl. (*Country Gentleman*, Aug., 1883.)

Note on Diseases of Plants. (*Proc. Amer. Assoc.*, 1883.)

Superphosphates. (*Agr'l Review*, April, 1883.)

Review of Lawes, Gilbert and Master's Experiments on Mixed Herbage, etc. (*Am. Jour. of Science*, 1883.)

Effect of Sulphur on Plants. (*Country Gentleman*, Nov., 1883.)

Peach Yellows. (*Rept. of Penn. Bd. of Agric.*, 1883.)

Report on Experiment Orchard. Peach Yellows. (*Houghton Farm*, Ser. III., No. 3. 1883.)

Meteorology and Soil Temperature. (*Ibid.*, Ser. I., Nos. 3 and 4. 1883.)

Relation of Root and Leaf Areas in Corn. (*Proc. Amer. Assoc.*, 1883.)

Notes on Trees and Shrubs of Northern Japan. (*Rept. Montreal Hort. Soc.*, 1883.)

Some Peculiarities of Plant Growth. (*Science*, Vol. III., 1884.)

Diseases of Plants. (*Popul. Sci. Mont.*, July, 1884.)

Relation of Natural Science to a Medical Course. (*Montreal Gazette*, Oct. 3d, 1884.)

Plants in their Relation to Disease. (*Trans. Kansas Hort. Soc.*, 1884.)

Botanic Gardens. (*Rept. Montreal Hort. Soc.*, 1884.)

Science and Classics. (*Convocation Address, Montreal*, April, 1884.)

Plants in their Relation to Disease. (*Trans. Am. Hort. Soc.*, 1885.)

The Relation of the Annual Rings of Exogens to Age. (*Canadian Rec. of Sci.*, Vol. I., No. 3. 1885.)

Distribution of the Reserve Material of Plants in Relation to Disease. (*Ibid.*, I. 4. 1885.)

Traditions of the Ainos of Northern Japan. (*Ibid.*, I. 4. 1885.)

First Annual Report of the Montreal Botanic Garden. (1885.)

Movement of Tendrils in Cucurbita Maxima and C. Pepo. (*Am. Jour. of Science*, Jan. and Feb., 1886.)

Origin of the Ainos and their final Settlement and Distribution in Japan. (*Canadian Rec. of Sci.*, II. 1. 1886.)

Variation of Water in Trees and Shrubs. (*Ibid.*, II. 2. 1886.)

Physical Characteristics of the Ainos. (*Ibid.*, II. 2. 1886.)

Edited Annual Reports of the Montreal Horticultural Society. (1884 and 1885.)

JAMES BUDDEN RENSHAW, B.D., was born 10th December, 1848, at Philadelphia, Pa. Studied at Williston Seminary, Easthampton, and Taconic Institute, Lanesboro, 1864–65. Civil Engineer, Providence, R. I., 1874–76, and New Jersey, 1876; Oberlin Theological Seminary, 1876–79; B.D., Oberlin, 1879; ordained at Hutchinson, Minn., 30th Sept., 1879, and pastor, Congregational church, Hutchinson, Minn., 1879–83; pastor, First Congregational church, Spokan Falls, W. T., 1883–85; pastor, Congregational church, Plainview, Minn , since 1885. Married, July, 1883, at Providence, R. I., Frances Williams. One son. Address, Plainview, Wabasha Co., Minn.

Rev. Charles Stewart Renshaw. (*Biographical Memoir.*)

HENRY BELL SIMPSON was born 29th April, 1852, at Columbus, Miss. Engaged in farming at Centerville, Maryland, 1873-85, and at Stafford Court-House, Va., since 1885. Married, 31st December, 1885, at Washington, D. C., M. A. Johnson. Address, Stafford Court-House, Va.

ALBERT TOLMAN WAKEFIELD, B.A., M.D., was born 27th July, 1853, at Madison, Lake Co., Ohio. B.A., Marietta College, 1872. Teacher in the Preparatory Dept., East Tennessee University, Knoxville, Tenn., 1873-75; Civil Engineer, New York City, 1875-76; studied medicine at Michigan University, Ann Arbor, 1876-77, and at Jefferson Medical College, Phila., 1877-78; M.D., Jefferson Medical College, 1878. Member of Peoria Academy of Medicine. Practiced at Peoria, Ill., since 1878. Married, 30th October, 1882, at Sheffield, Mass., Nellie E. Little. One boy. Address, 301 Main St., Peoria, Ill.

SETH SMITH WARNER was born 25th April, 1852, at Whately; prepared for college at Northampton High School. Engaged in farming, surveying, and teaching, 1873-78; in mercantile business, and on a ranch, California, 1878-80; travelling salesman and agent for Hampshire County, Bowker Fertilizer Co., since 1880. Chairman, Board of Registrars, Northampton. Married, 20th October, 1882, at Blakely, Pa., Mary E. Wheeler. One son. Address, Northampton, Mass.

JAMES HENRY WEBB, LL.B., was born 22d December, 1854, at Santa Fé, N. M.; studied at Winchester Institute, Winchester Centre, Ct., 1866-68, and Hudson River Institute, Claverack, N. Y., 1868-70. Entered college with the class of '74; was graduated, 1873; student, Graduate Dept., Yale College, 1873-74; Yale Law School, 1875-77; LL.B., Yale, 1877; admitted to the Connecticut bar, at New Haven, June, 1877; practiced at Hamden, Ct., 1877-82, and at New Haven, Ct., since 1882. Married, 29th June, 1880, at Mt. Carmel, Ct., Helen M. Ives. Two sons. Address, Alling & Webb, 69 Church St., New Haven, Ct.

CHARLES WELLINGTON, Ph.D., was born 4th May, 1853, at North Bridgton, Me.; studied at Kimball Union Academy, Meriden, N. H., 1869-70, and Williston Seminary, Easthampton,

1870–71. Graduate student in Chemistry, Mass. Agr'l Coll., 1873–76; Asst. Chemist, U. S. Dept. of Agriculture, Washington, D. C., 1876; student, University of Virginia, 1876–77; First Asst. Chemist, U. S. Dept. of Agriculture, Washington, 1877–82; studied at Leipzig, Berlin, and Goettingen, Ger., 1882–85; Ph.D., Goettingen, 1885; B.Sc., Boston Univ., 1885; Associate Professor of Chemistry, Mass. Agr'l Coll., since 1885. Member of Deutsche Chemische Gesellschaft, Berlin. Address, Amherst, Mass.

Ueber die Einwirkung des Formaldehyds auf verschiedene organische Amine sowie die Darstellung einiger sauren aromatischen Sulfate. (*Inaugural Dissertation, Goettingen*, 1885; *abstract in Berichte d. Deut. Chem. Ges.*, XVIII., 1886.)

Also assisted in writing annual reports of chemist, U. S. Dept. of Agriculture.

FRANK WARREN WOOD was born 22d September, 1850, at Rochester, N. Y.; attended school at Grafton. Civil Engineer at Rochester, N. Y., 1873–74, and Providence, R. I., 1876—? When last heard from was engaged in engineering and railroad construction in Illinois. Address unknown.

CLASS OF 1874.

JOHN MITCHELL BENEDICT, M.D., was born 3d February, 1852, at Bethel, Ct.; studied at Golden Hill Institute, Bridgeport, Ct., 1865–66, and Staples Institute, Easton, Ct., 1868-69; clerk in a store, Woodbury, Ct., 1867-68; taught school at Woodbury, Ct., 1869–70. Book-keeper, New Britain, Ct., 1874–75; at Springfield, 1875–78, and at New Britain, 1879; in the employ of Bowker Fertilizer Co., New York, 1880–81. Studied medicine with his uncle, and with Geo. C. Jarvis, M.D., of Hartford, Ct., 1879; Univ. City of N. Y. Medical School, 1879–82; M.D., Univ. City of N. Y., 1882; house officer, Hartford Hospital, Ct., 1882–83; physician, Waterbury, Ct., since 1883. Member of Connecticut, New Haven County, and Waterbury Medical Societies. Address, Waterbury, Ct.

WILLIAM HENRY BLANCHARD was born 12th August, 1850, at Walpole, N. H.; studied at Powers Institute, Bernardston, 1871. Engaged in farming at Putney and Westminster, Vt., 1874–86. Address, Washington, D. C.

EDWARD PHELPS CHANDLER was born 17th November, 1852, at Concord, N. H. Engaged in farming at Abilene, Kan., 1874–80; wool grower, Chandler, Chamberlain & Co., Fort Maginnis, Mon., since 1880. Address, Fort Maginnis, Mon.

*WILLIAM AVERY CLARK died 23d May, 1872, at Springfield, of pneumonia, aged 20 years.

*WOLFRED FLETCHER CURTIS was born 12th August, 1854, at Westminster; studied at Westminster Academy. Two years after graduation he entered the law office of Charles S. Hayden, Esq., of Fitchburg, and was admitted to the Massachusetts bar, in Worcester County, June, 1878; justice of the peace, 1878; member of the school board, 1877–78. Died from inflammation of the brain, at Westminster, 8th November, 1878.

DANIEL GREEN HITCHCOCK was born 24th May, 1852, at Warren; studied at Worcester Free Technical Institute, 1871; clerk in post office, Warren. Asst. postmaster, Warren, 1875–79; agent, American Express Company, and insurance agent, 1881–83. Member of the Warren School Committee, 1875–76; justice of the peace, 1877–83. Married, 4th August, 1875, at Monson, Julia M. Keep. Address, Warren, Mass.

JOHN ALDEN HOBBS was born 5th April, 1852, at North Hampton, N. H. Wool grower and farmer, Bloomington, Neb., since 1874. President, South Western Nebraska Wool Growers Assoc., since 1882. Married, 5th April, 1880, at Naponee, Neb., Cora Rose Bush. Two daughters. Address, Bloomington, Neb.

EDGAR HOWARD LIBBY was born 3d March, 1852, at Saccarappa, Me.; studied at Saccarappa High School, Ashland High School, and Academy, Stephen's Plains. B.Sc., Boston Univ., 1876; engaged in farming at Athol, 1874–75; graduate student in Agriculture, Mass. Agr'l Coll., 1875–76; editor of *Scientific Farmer*, Amherst and Boston, 1875–78; managing editor of *American Agriculturist*, New York, 1878–79; editor and publisher of *Land and Home*, New York, 1879–80; specialist, Dept. of Agriculture, 1880; editor, *Farmer's Review*, Chicago, Ill., 1881–82; specialist to Hiram Sibley & Co., Rochester, N. Y.,

1882–84; editor of *Our Country Home*, and publisher of *American Garden*, Greenfield, since 1884. Married, 19th October, 1881, at Hopkinton, Annie Laurie Young. Three daughters, one deceased. Address, Greenfield, Mass.

Pamphlets edited:—"Flax", Rochester; "Farm and Seed Manual", Rochester; "Farm Library—Flowers in Winter"; "The Flower Garden", I and II; "Vegetable Garden"; "Luscious Fruits"; "A. I. Poultry Book".

The Massachusetts Agricultural College. (*Scribner's Monthly*, Oct., 1876.)

Also a large number of contributions to *Nation; American Agriculturist; Scientific Farmer; Land and Home; Farmer's Review; Our Country Home; American Garden; Christian Union; Index; Register*, etc.

*Henry Lyman was born 3d March, 1856, at Middlefield, Ct.; prepared for college at private and public schools. Was graduated at the age of eighteen. On leaving college engaged in farming, at Middlefield, Ct. Died of pneumonia, at Middlefield, Ct., 19th January, 1879.

Arthur Huntington Montague was born 12th March, 1852, at Granby. Engaged in farming at Granby, since 1874. Address, South Hadley, Mass.

Henry Lyman Phelps was born 1st August, 1854, at Southampton; studied at Williston Seminary, Easthampton, 1871–72. Farmer and dealer in fertilizers, Northampton, 1874–82, and Southampton, since 1882. Worthy Deputy of the State Grange for Hampshire west, and Assistant Steward of the State Grange of Massachusetts, since 1886; Master of Southampton Grange. Married, 2d April, 1878, at Hadley, Helen L. Horton. Three daughters. Address, Southampton, Mass.

Frank Stockbridge Smith was born 10th September, 1853, at Agawam. Engaged in the lumber business, Springfield, 1876–77; woolen manufacturer, Hampden, 1877–82, and Albany Woolen Mills, Albany, Wis., since 1885. Married, 22d October, 1879, at New York, Frances Louise Olmstead. Two sons. Address, Albany, Wis.

Edward Eastman Woodman was born 12th October, 1851, at Danvers; book-keeper for Gilman, Pope & Co., Boston, 1863–65; studied at Bryant & Stratton Commercial College, 1868. In the employ of Peter Henderson, Jersey City Heights, N. J., 1874–79;

foreman for Henry A. Drew, Riverton, N. J., 1879–80; firm of E. & C. Woodman, florists and growers of garden supplies, since 1880. Has been secretary, treasurer, and chairman of Republican Town Committee. Member of the Essex County Agricultural Society. Address, Danvers, Mass.

HARRIE MCKEEN ZELLER was born 14th January, 1851, at Hagerstown, Md.; studied at Hagerstown Academy, Md., and Chambersburg Academy, Pa., 1869–70. Engaged in farming at Downsville, Md., 1874–78; asst. operator, Mutual Union Telegraph office, and night operator, Baltimore & Ohio commercial office, Hagerstown, Md., 1882–83; manager, commercial office, Baltimore & Ohio Telegraph Co., Hagerstown, Md., since 1883. Address, Hagerstown, Md.

CLASS OF 1875.

*JOHN ASHTON died 28th May, 1872, at Amherst, of typhoid pneumonia, aged 17 years.

JOSEPH FRANCIS BARRETT was born 7th October, 1854, at Barre; studied at Barre High School, and Leicester Academy, Leicester, 1870–71. Engaged in the retail milk business, Chicago, Ill., 1876–77; in the employ of W. H. Bowker & Co., Boston, since 1877; at present, travelling agent for the company, residence New York City. Married, 29th October, 1879, at Barre, Mary Emma Hillman. Two daughters. Address, 27 Beaver St., N. Y. City.

JOHN ATHERTON BARRI was born 27th February, 1855, at Cambridge; prepared for college at Cambridge High School. Employed on the farm of Thomas J. Field, Northfield, 1875–77; clerk, Metropolitan National Bank, Boston, 1877–80; in the lumber business, 1880; in the New York office of the Bowker Fertilizer Co., 1880–82; proprietor in the National Fertilizer Co., Bridgeport, Ct., since 1882. Married, 1st October, 1883, at Cleveland, Ohio, Jennie Howe. Address, Chittenden, Barri & Sanderson, Water St. and Fairfield Ave., Bridgeport, Ct.

EVERETT BURT BRAGG was born 20th March, 1856, at Royalston; studied at public schools, Amherst. Graduate student in Chemistry, Mass. Agr'l Coll., 1875-77; Chemist, Bowker Fertilizer Co., Boston, 1878–79; manager, N. Y. City office, Bowker Fertilizer Co., 1880–81; buying agent for the firm, 1881–82; Chemist, for Glidden & Curtis of Boston, at N. Y. City, since 1882. Married, 31st May, 1882, at Amherst, Helen B. Dickinson. One son. Address, care Glidden & Curtis, Tremont Bank Building, Boston.

WILLIAM PENN BROOKS was born 19th November, 1851, at South Scituate; studied at Hanover Academy, Mass., 1869–70; taught a district school at Hanover, 1870–71, and a grammar school at E. Abington (now Rockland), 1871–72. Graduate student in Chemistry and Botany, Mass. Agr'l Coll., 1875–76; Professor of Agriculture, Imperial College of Agriculture, Sapporo, Jap., since 1877, and of Botany, since 1880; acting President of the same, 1880–83. Married, 28th March, 1882, at Revere, Eva Bancroft Hall. One daughter. Address, Sapporo, Japan.

MADISON BUNKER, D.V.S., was born 19th November, 1853, at Nantucket; prepared for college at New Bedford High School. In the employ of W. F. Wheeler, Dorchester, 1875-76, and of W. H. Bowker & Co., 1876–79; studied at American Veterinary College, N. Y. City, 1879–81; D.V.S., Amer. Vet. Coll., 1881; house surgeon, Amer. Vet. Coll. Hosp., 1881; veterinary surgeon, Newton, since 1882. Veterinary Inspector, U. S. Quarantine Station, Boston, 1884–85. Member of the United States and New York State Veterinary Societies; of the Mass. Veterinary Association, and of the Newton Natural History Society. Address, Newton, Mass.

THOMAS RUSSELL CALLENDER was born 19th November, 1854, at Cambridge; studied at private school, Northfield. Engaged on a farm, Northfield, 1875–76; in the employ of Chicago Floricultural Co., Chicago, Ill., 1876; market gardener and florist, Athol, 1876–78; florist (Callender & Knapp), Wellesley, 1878-83; at South Framingham, 1883; in charge of floral establishment, Everett, 1883–85; florist, Wellesley, since 1885. Married, 23d January, 1882, at Northfield, Martha Ellen Bemis. One son. Address, Wellesley Hills, Mass.

FREDERICK GEORGE CAMPBELL was born 19th August, 1883, at Westminster West, Vt.; studied at Powers Institute, Bernardston, 1868. Engaged in farming at Westminster West, Vt., since 1875. Master of Maple Grove Grange, P. of H., 1879–80; Selectman, town of Westminster, Vt., 1885. Married, 13th October, 1875, at Westminster West, Vt., Emma L. Harlow. Three sons and two daughters. Address, Westminster West, Vt.

HERBERT SCHAW CARRUTH was born 15th February, 1855, at Dorchester; studied at Phillips Academy, Andover, 1868–69. Student, Mass. Agricultural College, 1871–72; B.Sc., Mass. Agr'l Coll., 1885; engaged in the manufacture of linseed oil (the last two years as a member of the firm of N. & C. Carruth), Boston, 1872–77; Asst. Treasurer, Dorchester Gas Light Co., Dorchester, 1877–81; member of the firm of W. B. Clarke & Carruth, booksellers, Boston, since 1881. Member of the New England Historic Genealogical and of the Bostonian Societies. Married, 13th September, 1877, at Dorchester, Annie French Pope. Two sons. Address, 340 Washington St., Boston.

XENOS YOUNG CLARK was born 24th May, 1855, at Boston; studied in Preparatory Dept., Kentucky University, Lexington, Ky., 1869–71. B.Sc., Mass. Agr'l Coll., 1878; B.Sc., Boston Univ., 1878. Draughtsman in U. S. Surveyor General's office, California, 1875–79; Natural History Assistant at the University of California, and a teacher in the public schools, 1875–79. Delivered a course of lectures on Microscopic Zoölogy before the San Francisco Microscopical Society, 1877; studied at Leipzig, Germany, 1879; resided from 1880–86 in California and the East, occupied in scientific study. Corresponding member of San Francisco Microscopical Society. Address, Amherst, Mass.

Secretary's report, San Francisco Microscopical Society, 1877. (*Daily Alta Californian*, 1877; *Am. Microsc. Jour.*, 1877.)

Animal Music: Its Nature and Origin. (*Amer. Naturalist*, April, 1879.)

Numerous contributions to *Nation; Century; Lippincott's Magazine; Harper's Weekly; Our Country Home; American Garden; Farmer's Review; Prairie Farmer; Youth's Companion; Index*, etc.

*JABEZ WILLIAM CLAY was born 24th January, 1852, at W. Fairlee, Vt.; prepared for college at schools of Bernardston. Took the first Grinnell agricultural prize. On graduation engaged

in farming at Westminster West, Vt. till 1878, when he entered the employ of the Bowker Fertilizer Co., first in Boston and afterwards in New York. Died of pneumonia, at New York, 1st October, 1880. Married, September, 1880, Mary J. Evans, of N. Y. City.

George Rufus Dodge was born 26th March, 1853, at Hamilton; studied at Beverly High School, two years. Engaged in farming at Hamilton, 1875–76; in the employ of the Bowker Fertilizer Co., since 1877, and at present supt. of factory, Bowker Fertilizer Co., Brighton. Married, 29th November, 1879, at Ipswich, Mary Esther Knowlton, of Hamilton. Two sons. Address, Brighton, Mass.

Henry Hague was born 4th April, 1848, at Ashton-under-Lyne, Lancaster, England. Previous to entering college was employed in a cotton factory, passed some years at sea, and learned the trade of carpenter. Studied at the Divinity School of the Protestant Episcopal Church, Phila., Pa., 1875-78; rector of Emmanuel church, Manville, R. I., 1878–82, and of St. Matthew's church, Worcester, since 1882. Married, 30th April, 1879, at Philadelphia, Pa., Harriet Davis. Two sons. Address, South Worcester, Mass.

Peter Mirick Harwood was born 10th June, 1853, at Barre; studied at Barre High School, 1868–71. Engaged in farming, and breeding Holstein-Friesian cattle, since 1875. Selectman, 1877; Secretary, School Committee, 1879, and chairman, 1884–85; Lecturer, Barre Grange, 1877, and 1880–82; Master, same, 1883–85; Lecturer, Mass. State Grange, since 1885, and General Deputy for the State, 1886–87; Director, Barre Central Cheese Co., 1883-85; Trustee and chief Marshal, Worcester County West Agricultural Society, 1883–84. Married, 23d December, 1884, Mary Ann Wallace. Address, Barre, Mass.

Walter Haydn Knapp was born 14th January, 1856, at Brookline. Teacher, New York Orphan Asylum, N. Y. City, 1875–77; laborer, at Nursery, Brighton, 1877; florist and market gardener, at Orange and Athol, 1877–78; florist at Wellesley Hills, 1878-85, and at Newtonville, since 1885. Address, Newtonville, Mass.

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

LAUREN KELLOGG LEE was born 26th November, 1854, at West Galway, N. Y.; prepared for college at Shrewsbury High School. Engaged in tanning, West Galway, N. Y., 1875–76; clerk in a hotel, Grinnell, Ia., 1876–79; employed at Luverne, Minn., and Valley Springs, D. T., in the Western business of Kellogg & McDougall, Linseed Oil Works, Buffalo, N. Y., 1879–82. Has been president Village School Board, etc. Married, 4th September, 1876, at Island Pond, Vt., Anna Bell Foster. Two sons. Address, Valley Springs, Dak.

GEORGE MELVILLE MILES was born 25th October, 1854, at Westminster; studied at Westminster Academy, 1870–71, and Worcester Academy, 1871–72. Taught at Westminster, 1875–76; government clerk, U. S. Army, Tongue River, Mon., 1876–77; engaged in sheep raising on Tongue River, 1877-83; in the hardware business, Miles & Strevell, Miles City, Mon., since 1881; cattle raising on Tongue River, since 1882. Notary Public for Custer county, Mon., since 1877; U. S. Court Commissioner, First Judicial District of Montana, since 1878; J. P., 1879; County Commissioner, Custer Co., 1883; Vice-President, First National Bank, Miles City, Mon., since 1885. Married, 22d December, 1880, at Miles City, Mon., Helen S. Strevell, of Pontiac, Ill. One son. Address, Miles City, Mon.

HARRY PRESTON OTIS was born 1st November, 1853, at Manchester, Ct. Superintendent of Northampton Emery Wheel Co., since 1875. Married, 27th November, 1883, at Florence, Nanny McCleve Worth. One son. Address, Leeds, Mass.

FRANK HENRY RICE was born 23d February, 1854, at Barre; studied at Worcester Technical Institute, Worcester, 1872. Farmer, at Barre, 1875; salesman, Barre, 1875–76; travelling salesman in New Jersey, Pennsylvania, and Ohio, 1876; dairying, Chicago, Ill., 1876–77; travelling in California and Oregon, 1877; surveying, at Cascades and Fort Stevens, Columbia River, Or., 1877; book-keeper, Agricultural Warehouse, Petaluma, Cal., 1877–78; salesman, at Aurora, Nev., and Bodie, Cal., 1878-80; dealer in cattle, hogs, and sheep, Aurora, Esmeralda Co., Nev., 1880–81; salesman, Aurora, Nev., Bodie, Cal., Hawthorne and Soda Springs, Nev., 1881–83; post master, Soda Springs, Nev.,

1882–83; Recorder and Auditor of Esmeralda County, Nev., and residence Hawthorne, Nev., since 1883. Married, 23d February, 1880, at Aurora, Nev., Lou Davis. One son and a daughter. Address, Hawthorne, Nev.

ANDRE ARNOLD SOUTHWICK was born 9th October, 1845, at Mendon. Manager of a farm, Boylston, 1875–76; Farm Superintendent, Mass. Agr'l Coll., 1876–79; supt. of a farm, Billerica, 1879-80; in charge of the business and industrial portion of Talladega College, Talladega, Ala., 1881-82; supt. of Mr. C. M. Beach's farms, West Hartford, Ct., since 1883. Has been a regular contributor to the *New England Homestead* for the past five years. Married, 31st May, 1877, at Cambridgeport, Josephine Dorr Snow. One daughter. Address, care Beach & Co., Hartford, Ct.

*HERMAN FRANKLIN WEEKS died 4th February, 1873, at Babylon, N. Y., of peritonitis, aged 23 years.

JOHN FROST WINCHESTER, D.V.S., was born 5th August, 1855, at Lynn. Graduate student in Veterinary, Mass. Agr'l Coll., 1875–76; studied at American Veterinary College, N. Y. City, 1876–78; D.V.S., Amer. Vet. Coll., 1878; veterinary surgeon, Lawrence, since 1878. Lecturer on Veterinary Science and Practice, Mass. Agr'l Coll., 1879–82; Member, Mass. Cattle Commission, since 1885. Married, 5th January, 1881, at North Andover, Nellie Stokes. Address, Lawrence, Mass.

CLASS OF 1876.

DAVID APPLETON BAGLEY was born 9th November, 1858, at Fitchburg. Studied medicine, Winchendon, 1876–78; brakeman, N. Y. & N. E, R. R., and residence Franklin, 1879; farmer, Winchendon, 1881. When last heard from (five years ago), was at Leadville, Colo. Address unknown.

JOHN BELLAMY was born 20th November, 1857, at Boston; prepared for college at English High School, Boston. Employed on a farm, Barre, 1877; on a ranch, Southern California, 1878–79;

worked in a furniture factory, 1880; engaged in hardware business, Nichols, Bellamy & Co., Boston, since 1880. Married, 30th June, 1881, at Boston, Florence E. Dexter. Two sons. Address, 657 Washington St., Boston.

DARIUS OTIS CHICKERING was born 16th October, 1852, at Enfield. B.Sc., Boston Univ., 1876. Engaged in general farming and fruit growing, since 1876. Married, 14th August, 1879, at South Deerfield, Henrietta Lillian Smith. One son. Address, Enfield.

CHARLES FREDERICK DEUEL was born 16th December, 1856, at Westfield; prepared for college at Amherst High School. B.Sc., Boston Univ., 1876; druggist, Amherst, since 1876. Married, 15th May, 1883, at Amherst, Lucy A. Fish. Address, Amherst, Mass.

GEORGE WILLIAM MAY GUILD was born 26th January, 1856, at N. Y. City. B.Sc., Boston Univ., 1876; engaged in business, Lawrence, 1878; in the employ of Adams Express Company, N. Y. City, 1881?; clerk, Portsmouth Navy Yard, N. H., 1883; in the wire business, Boston, 1884. Address, Chauncy St., Boston.

JOSEPH MATHER HAWLEY was born 15th January, 1856, at Salem, N. Y.; prepared for college at Washington Academy, Salem, N. Y. B.Sc., Boston Univ., 1876; banker, Berlin, Wis., since 1877. Address, Berlin, Wis.

HIRAM KENDALL was born 29th July, 1855, at Providence, R. I. B.Sc., Boston Univ., 1876; graduate student in Chemistry, Mass. Agr'l Coll., 1876; Chemist and manufacturer of oils, Union Oil Co., New Orleans, La., 1876–77; Chemist, Kendall Mfg. Co., Providence, R. I., 1878–84, and member of the firm since 1884. Member of the R. I. Historical and Horticultural Societies. Capt., 1st Light Inf. of Providence, and 1st Bat. Inf., R. I. M. Married, 5th January, 1883, at Lonsdale, R. I., Lydia Kent Kilburn. One daughter. Address, Kendall Mfg. Co., Providence, R. I.

THOMAS HENRY LADD was born 27th December, 1856, at Calcutta, India; prepared for college at the Watertown public schools.

B.Sc., Boston Univ., 1876. Student of Electricity and Mechanics, Boston, 1876–80? For the last few years has been insane, caused by overwork. Address, care Wm. Dadmun, Watertown, Mass.

CHARLES WASHINGTON MCCONNEL, D.D.S., was born 1st February, 1854, at Greensboro, N. C.; prepared for college at Lonsdale High School, R. I. B.Sc., Boston Univ., 1876; studied dentistry with A. W. Buckland, D.D.S., of Woonsocket, R. I., and at Philadelphia Dental College, Phila., Pa.; D.D.S., Phila. Dental Coll., 1880; practiced at Albany, N. Y., 1881–85, and at Boston, since 1885. Address, 170 Tremont St., Boston.

WILLIAM ALEXANDER MACLEOD, B.A., LL.B., was born 19th March, 1856, at Providence, R. I.; prepared for college in the public schools of Providence, and subsequently was in the employ of the Fletcher Manufacturing Co., Providence. B.Sc., Boston Univ., 1876; Amherst College, 1876–77; B.A., Amherst, 1877; studied law with Hon. Wm. B. Beach of Providence, and at Boston University Law School, 1877–79; LL.B., Boston Univ., 1879; admitted to the Rhode Island bar at Providence, 1879, and the Massachusetts bar, in Suffolk County, 1880; practiced at Boston (except six months in 1880–81 spent at Franklin), since 1879. Director of Melville School Corporation of Boston, since 1886; Member of the Bostonian Society. Married, 15th June, 1882, at Lonsdale, R. I., Lola McConnel. Two sons. Address, 60 Devonshire St., Boston.

GEORGE HEWINS MANN was born 28th February, 1856, at Sharon; studied at Stoughtonham Institute, Sharon, 1869–72. B.Sc., Boston Univ., 1876; in the employ of G. R. & W. R. Mann, cotton duck manufacturers, Sharon, 1876–81; Asst. Mechanical Engineer, Mason Machine Works, Taunton, 1881–82; foreman, spinning frame dept., Franklin Foundry & Machine Co., Providence, R. I., 1882–83; supt. of Cotton Duck Mills, Sharon, since 1883. Married, 5th December, 1884, at Lynn, Lizzie C. Stoyle. One daughter. Address, Sharon, Mass.

WILLIAM EDSON MARTIN was born 14th June, 1857, at Hadley. Studied law, University of Michigan, Ann Arbor, Mich., 1877; clerk, Excelsior, Minn., 1878–81; clerk in post office, Excelsior,

1881–82; asst. postmaster, Excelsior, 1882–83; postmaster, Excelsior, 1883–85; grocer, Martin & Sigafoos, Excelsior, since 1885. Address, Excelsior, Minn.

George Amos Parker was born 28th April, 1853, at Fitzwilliam, N. H. B.Sc., Boston Univ., 1876; head gardener at Vassar College, Poughkeepsie, N. Y., 1876–79; supt. of "Cliffdale", Poughkeepsie, N. Y., 1879–82; supt. of "Ophie Farm", White Plains, N. Y., 1882; landscape gardener, near Baltimore, Md., and Cleveland, Ohio, 1882–84; landscape gardener, Old Colony R. R., since 1884. Member of Mass. Hort. Soc. Married, 6th December, 1876, at Chesterfield, Jannie W. Richmond, of Halifax. Two sons. Address, Halifax, Mass.

George Lowell Parker was born 20th March, 1857, at Dorchester. Florist, Dorchester, since 1876. Married, 26th October, 1881, at Dorchester, Ida T. Spargo. One son and a daughter. Address, Dorchester, Mass.

Charles Herbert Phelps was born 5th February, 1858, at Malden; prepared for college at English High School, Boston. B.Sc., Boston Univ., 1876; florist, South Framingham, 1876–85; clerk, N. Y. City, since 1885. Married, 26th November, 1883, at Brooklyn, N. Y., Clara L. Chichester. Address, 42 Elizabeth St., N. Y.

William Henry Porter was born 8th May, 1856, at Hatfield. B.Sc., Boston Univ., 1876; engaged in farming at Hatfield, 1876–82; farm foreman for S. R. Payson, Belmont, 1882–85; in the firm of Harris, Rogers & Co., publishers and dealers in scientific text books, Boston, 1885–86; farming, Griswold, Ct., since 1886. Married, 23d October, 1879, at Northampton, Carrie M. Harris. Two sons, one deceased. Address, Jewett City, Ct.

William Stiles Potter was born 21st February, 1855, at La Fayette, Ind.; studied at La Fayette High School. B.Sc., Boston Univ., 1876; studied law with Wallace & Rice, La Fayette, immediately after graduation; member of the firm, Rice & Potter, La Fayette. Married, 27th January, 1885, at Troy, Pa., Fanny W. Peck. Address, Rice & Potter, La Fayette, Ind.

JOSEPH EDWARD ROOT, M.D., was born 4th March, 1854, at Greenwich; prepared for college at Barre Academy. B.Sc., Boston Univ., 1876; teacher, Institution for Education of Feeble Minded Youth, Barre, 1876-78; asst. supt., Walnut Hill Asylum, Hartford, Ct., 1878-79; studied medicine with Thomas D. Crothers, M.D., at Hartford, Ct., 1878-79, and at College of Physicians and Surgeons, N. Y. City, 1879-83; M.D., Coll. of Phys. and Surg., 1883; asst. physician, Retreat for the Insane, Hartford, Ct., 1883-84; physician, Hartford, Ct., since 1884. In conjunction with another physician established the Hartford Free Dispensary. Member of Connecticut, Hartford County, and Hartford City Medical Societies. Married, 4th March, 1885, Ella Goodman Moseley, of Hartford, Ct. Address, 839 Asylum Avenue, Hartford, Ct.

JOHN MILTON SEARS was born 12th December, 1854, at Ashfield; prepared for college at Sanderson Academy, Ashfield. B.Sc., Boston Univ., 1876; engaged in farming, teaching, and surveying, Ashfield, 1876-85; in the employ of Belding Bros. & Co., Northampton, since 1885. Member of Ashfield School Committee, 1879-82. Address, Northampton, Mass.

THOMAS EDWIN SMITH was born 27th December, 1854, at South Hadley; studied at Springfield High School, three years. Student, Boston School of Oratory, 1877; manufacturer at West Chesterfield, since 1878. Married, (1) 10th September, 1879, at Chesterfield, Alma I. Baker, who died 24th September, 1882; (2) 20th August, 1884, at Chesterfield, Anna W. Baker. Two sons and a daughter. Address, West Chesterfield, Mass.

CYRUS APPLETON TAFT was born 8th September, 1856, at Whitinsville. B.Sc., Boston Univ., 1876; machinist, Whitinsville, 1876-83, and draughtsman, Whitinsville, since 1883. Address, Whitinsville, Mass.

GEORGE PETER URNER was born 16th May, 1856, at Brooklyn, N. Y. B.Sc., Boston Univ., 1876; asst. chemist, Stanno Chemical Co., Long Island City, N. Y., 1876-77; buyer and bookkeeper for Magic Ruffle Co., N. Y., 1878-80; in the engineering department, Northern Pacific Railroad Co., 1880-83; sheep raiser, Melville, Mon., since 1883. Address, Melville, Gallatin Co., Mon.

HOWARD GRAHAM WETMORE, M.D., was born 4th May, 1856, at N. Y. City; prepared for college at private schools. B.Sc., Boston Univ., 1876; College of Physicians and Surgeons, N. Y. City, 1876–79; M.D., Coll. of Phys. and Surg., 1879; house officer, St. Luke's Hospital, N. Y., 1879–80; physician, N. Y. City, since 1880. Address, 41 West 9th St., N. Y. City.

JOHN ELGIN WILLIAMS was born 26th June, 1857, at Prescott, Canada; prepared for college at Amherst High School. B.Sc., Boston Univ., 1876; clerk, Amherst post office, 1876; studied veterinary medicine with Noah Cressy, M.D., 1877; in partnership with H. M. McCloud, publishers of the *Amherst Record* and job printers, Amherst, 1877–79; proprietor and editor, *Amherst Record*, since 1879. Married, 28th August, 1884, at Northampton, Lizzie J. Draper. Address, Amherst, Mass.

CLASS OF 1877.

DAVID HENRY BENSON was born 8th November, 1851, at Bridgewater; was an iron moulder previous to entering college. B.Sc., Boston Univ., 1877; graduate student in Chemistry, Mass. Agr'l Coll, 1877–78; travelling salesman, Bradley Fertilizer Co., Boston, 1878–80; supt. of works, Bowker Fertilizer Co., Elizabeth, N. J., 1880–81; chemist and supt. of chemical works, Bradley Fertilizer Co., N. Weymouth, since 1881. Married, 29th November, 1878, at Amherst, Mary A. White. Two daughters and a son. Address, North Weymouth, Mass.

CHARLES BREWER was born 8th March, 1856, at Wilbraham; studied at Cambridge High School, 1872–73. B.Sc., Boston Univ., 1877; engaged in farming, Pelham, 1877–78; teacher, N. Wilbraham, 1878–79; farmer, Pelham, 1880–81; book-keeper, Troy Laundry, Springfield, 1881–83; graduate student in Horticulture and Floriculture, Mass. Agr'l Coll., 1883; florist, Orange, 1883–84; florist, at Utica, N. Y., 1884–85, and at Rochester, N. Y., since 1885. Address, care R. T. Pridmore, Rochester, N. Y.

ATHERTON CLARK was born 18th June, 1859, at Amherst. B.Sc., Boston Univ., 1877; travelled in California, 1877; farmer, Amherst, 1877–78; in charge of the sorghum sugar mill, at the college, 1878; graduate student in Chemistry, Mass. Agr'l Coll., 1878–80; engaged in prospecting, in California, Arizona, and Nevada, 1880–82; asst. manager, Menlo Gold Quartz Co., Grass Valley, Cal., 1881-82; book-keeper for The Hills Co., Amherst, 1882–83; in the employ of R. H. Stearns & Co., Boston, since 1883. Address, 131 Tremont St., Boston.

JOSEPH ROBINSON HIBBARD was born 2d December, 1853, at Maulmain, Burmah; studied at Chester Academy, Vt., 1868–70, New London Academy, N. H., 1870-72, and Worcester Academy, Mass., 1872–73. B.Sc., Boston Univ., 1877; engaged in farming at Chester, Vt., 1877–78, and at Stoughton, Wis., since 1879. Married, (1) 14th November, 1878, at Amherst, Jennie L. Russell, who died 9th June, 1882; (2) 14th February, 1883, at Spirit Lake, Ia., Emma A. Flatt. One son. Address, Stoughton, Wis.

WALDO VERNON HOWE was born 2d December, 1855, at Harvard; prepared for college at Framingham High School, and Phillips Academy, Andover. B.Sc., Boston Univ., 1877; agent, Framingham Brick Co., Framingham, 1877–80, and supt., same, 1880–84; residence, Newburyport, since 1884. Address, Newburyport, Mass.

GEORGE EVERETT NYE was born 30th July, 1855, at Sandwich. Engaged in farming at Sandwich, 1877–79; book-keeper, G. F. Swift & Co., Union Stock Yards, Chicago, Ill., since 1880, and in charge of a Chicago office, since 1883. Address, 70 Exchange Building, Union Stock Yards, Chicago, Ill.

HENRY FITCH PARKER, LL.B., was born 25th April, 1858, at New Bedford. Residence, Whitinsville, 1877–79; machinist, Chicopee Falls, and Providence, R. I.; studied book-keeping, Bryant & Stratton Business College, Providence, R. I., 1878; student, Univ. City of N. Y. Law School, 1880–82; LL.B., Univ. City of N. Y., 1882; Mechanical Engineer, N. Y. City, since 1879. Address, 5 Beekman St., N. Y. City.

RAYMUNDO MARTINS DA SILVA PORTO was born 23d January, 1855, at Belem, Province of Pará, Brazil, S. A. Graduate student

in Agriculture, Mass. Agr'l Coll., 1877; employed as interpreter and head clerk by an American house, Pará, Braz., 1878–79; proprietor of a steam brick factory, near Pará, 1879–81; taught the languages at Pará, 1881–82; engaged in farming, Pará, 1882–85; teacher, in the colleges, Pará, since 1885. Married, 20th July, 1882, at Pará. Two daughters. Address, Pará, Brazil, S. A.

*John Edwards Southmayd was born 7th August, 1853, at Wilmington, N. Carolina; prepared for college at Middletown High School, Ct. B.Sc., Boston Univ., 1877. Received the first Grinnell and second Hills prizes. Immediately on leaving college he was appointed superintendent of a large cotton and vegetable plantation at Cottonsham, Ga., which position he held at the time of his death. Died of phthisis, at Minneapolis, Minn., 11th December, 1878.

Joseph Wyman was born 13th March, 1856, at West Cambridge; prepared for college at Cambridge High School. B.Sc., Boston Univ., 1877; market gardener, Arlington, 1877–80; book-keeper, F. O. Squire & Co., Boston, since 1880; present residence, Chelsea. Married, 21st October, 1880, at Chelsea, Carrie W. Studly. One son. Address, 126 Washington Ave., Chelsea, Mass.

CLASS OF 1878.

David Erastus Baker, M.D., was born 30th March, 1857, at Franklin; prepared for college at Franklin High School. B.Sc., Boston Univ., 1878; taught school at Franklin, 1878–79; Harvard Medical School, 1879–82; M.D., Harvard, 1883; house officer, Boston City Hospital, 1882–84; Fellow of the Mass. Medical Soc., 1883; physician, Newton Lower Falls, since 1884. Married, 21st October, 1885, at Wellesley Hills, Hattie E. Lord. Address, Newton Lower Falls, Mass.

Willie Levi Boutwell was born 20th January, 1857, at Leverett. B.Sc., Boston Univ., 1878; engaged in farming at Leverett, since 1878. Secretary of the Hampshire Agricultural Society, 1879–81, and of the School Board of Leverett, since 1884.

Married, 27th December, 1883, at Leverett, Sarah E. Bangs. One daughter. Address, Leverett, Mass.

ARTHUR AMBER BRIGHAM was born 6th October, 1856, at Marlboro; prepared for college at Marlboro High School. Engaged in farming and the ice business, since 1878. Is Past-Master of Marlboro Grange, and Worthy Deputy of the State Grange for Southern Middlesex; Member of the Board of Trustees of Middlesex South Agricultural Society; Trustee of the Mass. Agricultural College, since 1885; Secretary of the State Grange of Massachusetts, since 1886, and editor, Grange Dept., *Our Grange Homes*, since 1886. Married, 6th October, 1881, at Marlboro, Charlotte W. Brigham. Address, Marlboro, Mass.

EDWARD CARLISLE CHOATE was born 9th March, 1857, at Cambridge; prepared for college at Cambridge High School. B.Sc., Boston Univ., 1878; freight agent, Old Colony Railroad Company, 1878–79; engaged in farming at Southboro, 1879–85, and in horse raising, Cheyenne, Wyo., since 1885. Trustee of the Mass. Agricultural College, 1882–84. Address, Davis & Choate, Cheyenne, Wyoming Territory.

CHARLES FRANCIS COBURN was born 14th March, 1858, at Dedham; prepared for college at Lowell High School. B.Sc., Boston Univ., 1878; associate editor of *Lowell Daily Citizen*, since 1878, and teller, Five Cent Savings Bank, Lowell, since 1880. Address, Lowell, Mass.

SANDFORD DWIGHT FOOT was born 6th January, 1858, at Springfield. B.Sc., Boston Univ., 1878; in the employ of the Hampden Watch Company, Springfield, 1879–83; partner and secretary in the firm of Kearney & Foot Co., file and rasp manufacturers, Paterson, N. J., since 1883. Address, 101 Chambers St., N. Y. City.

JOSIAH NEWHALL HALL, M.D., was born 11th October, 1859, at North Chelsea. B.Sc., Boston Univ., 1878; Harvard Medical School, 1878–81; M.D., Harvard, 1882; house officer, Boston City Hospital, 1881–83; Member of the Colorado Medical Soc., 1883. Practiced at Denver and Sterling, Colo., since 1883.

Married, 12th April, 1885, at Sterling, Colo., Carrie G. Ayres. Address, Sterling, Weld Co., Colo.

Progress of Medicine for the Year. (*Proc. Colo. State Med. Soc.*, 1885.)

CHARLES SUMNER HOWE was born 29th September, 1858, at Nashua, N. H.; prepared for college at Franklin High School. B.Sc., Boston Univ., 1878; graduate student in Chemistry, Mass. Agr'l Coll., 1878–79; principal of the High School, Longmeadow, 1879; Professor in Colorado College, Colorado Springs, and principal of the Albuquerque Academy, Albuquerque, N. M., 1879–81; engaged in mining in New Mexico and Arizona, 1881–82; student of Mathematics, Johns Hopkins University, Baltimore, 1882–83; Adjunct Professor of Mathematics, Buchtel College, Akron, Ohio, 1883–84; Professor of Mathematics and Astronomy, Buchtel College, since 1884. Married, 22d May, 1882, at N. Amherst, Abbie A. Waite. One son. Address, 549 E. Middlebury St., Akron, Ohio.

HENRY FRANCIS HUBBARD was born 27th October, 1857, in New York City; studied at Stratford Academy, Stratford, Ct., 1865–68; B.Sc., Boston Univ., 1878. Member of the Open Board of Stock Brokers, New York City, and stock broker with S. Samuel, 106 Duane St., N. Y., 1879–80; with J. E. Hawlsey, Commissioner of Deeds, 95 Duane St., 1880; surveyor on the Old Parallel Railroad, 1880–81; with J. H. Catherwood & Co., tea importers, since 1881. Address, 94 Front St., N. Y. City.

JOHN FRANKLIN HUNT was born 5th December, 1858, at East Douglas; prepared for college at Monson. Graduate student in Chemistry, Mass. Agr'l Coll., 1878; engaged in surveying in Texas and Mexico, 1879–82; clerk at the Boston Foreign Exhibition, 1883–84; farming at Sunderland, since 1884. Married, 11th February, 1885, at Sunderland, Emma E. Hubbard. One daughter. Address, Sunderland, Mass.

HENRY GUSTAVE HEATH KOCH was born 16th June, 1859, in New York; prepared for college at Hudenfeld's Institute. B.Sc., Boston Univ., 1878; living in Europe, 1878–80; student at Goettingen, 1879–80; engaged in business in New York, since 1881. Married, 12th May, 1886, at N. Y. City, Margaret T. O'Neill. Address, 6th Ave. and 20th St., N. Y. City.

CHARLES OTTO LOVELL was born 14th January, 1858, at Amherst. B.Sc., Boston Univ., 1878. Photographer, Amherst, 1879–85; general agent for J. H. Earle, Boston, 1880–81; photographer, Northampton, since 1885. Married, 14th June, 1884, at Montreal, Ca., Mary E. Seymour. One daughter. Address, Northampton, Mass.

CHARLES ELIHU LYMAN was born 3d November, 1857, at Middlefield, Ct. B.Sc., Boston Univ., 1878; engaged in farming at Middlefield, Ct., since 1878. Address, Middlefield, Ct.

LOCKWOOD MYRICK was born 6th July, 1857, at Brooklyn, Ct. Studied law with Hon. E. R. Hoar, in Boston, 1878–79, and at the Harvard Law School, 1879; admitted to the bar, in Arkansas, 1880; practiced at Fort Worth, Texas, 1880; in the employ of the Pacific Guano Co., Boston, 1880–83; graduate student in Chemistry, Mass. Agr'l Coll., 1883; general selling agent, Randall's Boston Fertilizers, 1884; chemical agent for Williams, Clark & Co., New York City, since 1884. Address, Williams, Clark & Co., Cotton Exchange Building, Hanover Square, N. Y. City.

FREDERICK HUNTINGTON OSGOOD, V. S., was born 16th April, 1857, at Newton; prepared for college at Cambridge High School. B.Sc., Boston Univ., 1878; studied veterinary medicine with Prof. C. P. Lyman, at Springfield, 1878, and at Edinburgh, 1878–81; V.S., Edinburgh, 1881; M.R.C.V.S., London, 1881; Fellow of the Edinburgh Vet. Med. Soc., 1881; veterinary surgeon, Springfield, since 1881. President, Mass. Veterinary Assoc., 1886. Married 10th October, 1878, at Sunderland, Ella A. Brown. Three sons. Address, Springfield, Mass.

AMOS LITTLE SPOFFORD was born 11th April, 1856, at Lowville, N. Y. B.Sc., Boston Univ., 1878; studied at the Harvard Medical School, 1878–79; subsequently travelled in the west and later, was a mechanic at Georgetown. Farming at West Newbury, since 1883. Address, West Newbury, Mass.

HORACE EDWARD STOCKBRIDGE, Ph.D., was born 19th May, 1857, at N. Hadley; student at Powers Institute, Bernardston, 1874. B.Sc., Boston Univ., 1878; engaged in the sorghum

sugar expts. at the college, 1878; graduate student in Chemistry, Mass. Agr'l Coll., 1878–80; special chemist, U. S. Dept. of Agriculture, Washington, D. C., 1880; student of Chemistry, Mass. Agr'l Coll., 1881; instructor in Chemistry, same, 1881–82; studied at Goettingen, Ger., 1882–84; Ph.D., Goettingen, 1884; Associate Professor of Chemistry, Mass. Agr'l Coll., 1884–85; Professor of Chemistry and Geology, Imperial College of Agriculture, Sapporo, Jap., and Chemist to the government for the Dept. of the Hokkaido, since 1885. Member of the American Chemical Society, of the Deutsche Chemischen Gesellschaft, of the Amer. Assoc. for the Advancement of Science; honorary member of the Hokkaido Educational Society. Married, 30th March, 1885, at Culpeper, Va., Belle Lamar of Sumter, Ga. Address, Sapporo, Japan.

Contributed the following articles (the three first being prize essays) to the reports of the Penn. State Agr'l Society: "Causes for the Failure of Crops, and in Farming," 1879; "How may the Pupils of Graded and Normal Schools be Taught the Theory and Practice of Agriculture," 1879; "How the Students of our Agr'l Colleges can be best Prepared and Induced to Choose the Profession of Agriculture," 1879; "Teaching Parents Agriculture through the Pupils of the District School," 1881; "Agricultural Experiment Stations," etc., 1881; "The most effectual method of uniting State, County, and Local Agr'l Societies," 1884; "Changes needed in the Agric. of Penn. in order that her Farmers may suffer least from Western competition," 1884.

Ueber die Analytischen Bestimmungen des Zuckers der Rübe, nebst der Anwendung von Neueren Verfahren. (Inaug. Dissertation, Goettingen, 1884.)

Rocks and Soils: A Treatise on the Chemistry of Geologic Transformation and Soil Composition. (*In press.*)

Frederick Tuckerman, M.D., was born 7th May, 1857, at Greenfield; student at St. Mark's School, Southborough, 1869–73. B.Sc., Boston Univ., 1878; travelled in Europe and the East, 1878–79; Harvard Medical School, 1879–82; M.D., Harvard, 1882; Fellow of the Mass. Medical Soc., 1883; studied at London, and Berlin, 1882–83; Lecturer on Anatomy and Physiology, Mass. Agr'l Coll., since 1884. Married, 6th September, 1881, at Amherst, Alice G. Cooper. One daughter. Address, Amherst, Mass.

Biographical Contribution to the Bostonian Society. (1881 and 1885.)

Biographical Record of the Class of 1878, Mass. Agr'l Coll., 1878-84. Amherst, 1885.

Some Observations in Reference to Bilateral Asymmetry of Form and Function. (*Jour. of Anat. and Physiol.*, London, 1885.)

Supernumerary Leg in Rana palustris. (*Jour. of Anat. and Physiol.*, London, 1886.)

General Catalogue of the Massachusetts Agricultural College, 1862-86. Amherst, 1886. (*Conjointly with H. H. Goodell.*)

Abstract of Lectures on Anatomy and Physiology. Amherst, 1886.

Also a number of tables and schedules, and several minor contributions to various journals.

JOHN HOSEA WASHBURN was born 5th June, 1859, at Bridgewater; prepared for college at West Tisbury School. B.Sc., Boston Univ., 1878; taught a district school, at North Raynham, 1878–79; principal of High School, West Bridgewater, 1879-80; teacher in the Rhode Island State Reform School, and student of Chemistry at Brown University, Providence, 1880–81; graduate student in Chemistry, Mass. Agr'l Coll., 1881-83; Professor of Chemistry and Instructor in Mathematics, Storrs Agricultural School, Mansfield, Ct., since 1883. Studied at Goettingen, Ger., 1885. Address, Mansfield, Ct.

RUFUS PUTNAM WOODBURY was born 3d June, 1852, at Paris, France; studied at Williston Seminary, Easthampton, four years, and at the Dresden Polytechnic, Dresden, Ger., one year. B.Sc., Boston Univ., 1878. Druggist, Elk Falls, Kan., 1880–81; editor of *Kansas City Daily Times*, since 1881. Married, 15th May, 1883, at Mason City, Ill., S. A. Swing. Address, Kansas City, Mo.

CLASS OF 1879.

*MARTIN BAKER died 10th March, 1876, at Amherst, of pneumonia, aged 19 years.

RICHARD STORRS DICKINSON was born 2d June, 1859, at St. Louis, Mo. Taught school at Kankakee, Ill., 1879–80; employed on the farm of Winslow Bros., Kankakee, 1880; at Braceville coal mines, Braceville, Grundy County, Ill., 1880–81; on the farm of Winslow Bros., Kankakee, 1881; contractor, railroad work, 1881; in the employ of the Mutual Union Telegraph Co., at Springfield and Jacksonville, Ill., 1881–82; farm, Winslow Bros., 1882–83, and of H. M. Winslow, Columbus, Neb., 1883–

84; farmer, Columbus, Neb., since 1884. Married, 25th February, 1885, at Columbus, Neb., Mary Leona Holden. Address, Columbus, Platte Co., Neb.

SAMUEL BOWDLEAR GREEN was born 15th September, at Chelsea. B.Sc., Boston Univ., 1879; engaged in farming at Hartford, Ct., 1879, and at Lincoln, 1880; seed raiser, Middleton, 1881; graduate student, Mass. Agr'l Coll., 1881; foreman green house, Brighton, 1881–82; Supt. Hort. Dept., Houghton Farm, Mountainville, N. Y., 1882–85; foreman in Nursery, Newton Highlands, since 1885. Address, Newton Highlands, Mass.

*JOSEPH GARDNER LINCOLN died 22d January, 1877, at Amherst, of peritonitis, aged 17 years.

CHARLES RUDOLPH, LL.B., was born 5th August, 1854, at New Haven, Ct.; attended school at Wilbraham. B.Sc., Boston Univ., 1879; studied at Columbia Law School, N. Y. City, 1880–82; LL.B., Columbia, 1882; lawyer, Mitchell, Dak., since 1882. Address, Mitchell, Dak.

WALTER ALDEN SHERMAN, M.D., D.V.S., was born 22d August, 1857, at Lowell. B.Sc., Boston Univ., 1879; studied at American Veterinary College, N. Y. City, 1879–81; D.V.S., Amer. Vet. Coll., 1881; Long Island College Hospital, Brooklyn, N. Y., 1881–82; M.D., L. I. Coll. Hosp., 1882; American Veterinary Hospital, 1883; veterinary surgeon, Lowell, since 1883. Member of the United States, and the Mass. State Veterinary societies. Address, 182 Central St., Lowell, Mass.

GEORGE PARMENTER SMITH was born 25th November, 1858, at Sunderland. B.Sc., Boston Univ., 1879; engaged in farming at Sunderland, since 1879. Trustee, Sunderland Public Library. Address, Sunderland, Mass.

ROSCOE WESLEY SWAN, M.D., was born 18th March, 1860, at Framingham; studied at Chauncy Hall School, Boston, 1874–75. B.Sc., Boston Univ., 1879; student, Summer School of Languages, Amherst, 1879; Harvard Medical School, 1879–82; M.D., Harvard, 1882; Fellow of the Mass. Medical Soc., 1882; physician, Worcester, since 1882. Vice-President of the Mass. Emergency and Hygiene Assoc., and chairman of the Worcester branch of same. Address, 32 Pleasant St., Worcester, Mass.

HIRAM EDMUND BAYLIES WALDRON was born 22d August, 1856, at Rochester; studied at New Bedford High School, 1873–74. B.Sc., Boston Univ., 1879; clerk, secretary's office, State Board of Agriculture, Boston, 1879-80; farmer, Rochester, since 1880. Address, North Rochester, Mass.

CLASS OF 1880.

ALVAN LUTHER FOWLER was born 7th October, 1859, at Westfield; studied at Westfield High School, 1873–76. B.Sc., Boston Univ., 1880; paymaster for Smith and Ripley, railroad contractors, N. H. and N. R. R., 1880–81; supt., Woronoco Mining Co., Tombstone, Ariz., 1881–84; residence, San Francisco, 1884–85; manager, American Churn Co., since 1885. Member of American Institute of Mining Engineers. Married, 17th January, 1883, at Longmeadow, Annie Taylor Simons. One son and a daughter. Address, Westfield, Mass.

FREDERIC EUGENE GLADWIN was born 18th April, 1858, at East Haddam, Ct.; studied at Springfield English and Classical Institute. B.Sc., Boston Univ., 1880; employed as a surveyor, N. H. and Northampton R. R. Co., 1880–81; engaged in prospecting, mining, and assaying in New Mexico, and at Tombstone, Ariz., 1881-82; assayer and chemist Woronoco G. & S. M. Co., 1882–83; assayer, Boston and Arizona S. & R. Co., Emery City, 1883–84; in the employ of G. G. Wickson & Co., dealers in dairy machinery, San Francisco, Cal., since 1885. Member of American Institute of Mining Engineers. Address, 38 California St., San Francisco, Cal.

WILLIAM GILBERT LEE was born 23d June, 1852, at Crescent, N. Y.; studied at Winfield Academy, West Winfield, N. Y., Northwestern College, Naperville, Ill., and in Preparatory Dept., Chicago University, Chicago, Ill., 1875–76. B.Sc., Boston Univ., 1880; engaged in mining at Georgetown, El Dorado Co., and Grass Valley, Nevada Co., Cal., 1880–84; draughtsman, Oregon Central R. R., Rock Point, Or., 1883–84; draughtsman, Holyoke, 1884; clerk, R. H. Stearns & Co., Boston, 1884-85;

draughtsman, office of E. A. Ellsworth, Holyoke, since 1885. Married, 15th September, 1885, at South Hadley Falls, Alice P. Griffin. Address, Holyoke, Mass.

CHARLES MANJIE MCQUEEN was born 23d October, 1857, at Longmeadow; prepared for college at Springfield High School. B.Sc., Boston Univ., 1880; treasurer, Standard Book Co., Chicago, Ill., 1881–84; President and Treasurer, Progressive Publishing Company, Chicago, since 1884. Married, 2d January, 1883, at Longmeadow, Clara B. Gates. Address, 92 Commercial Bank Building, Chicago, Ill.

WILLIAM COLVARD PARKER was born 12th April, 1858, at Wakefield; studied at Phillips Academy, Andover, 1875, and Chauncy Hall School, Boston, 1876. B.Sc., Boston Univ., 1880; engaged in farming, Wakefield, 1880–84; salesman, Ames Plow Co., Boston, 1884–85; agent, real estate, insurance, and mortgages, Boston, since 1885. Member of the Warren Shakespeare Club. Address, 28 School St., Boston.

GEORGE ARMS RIPLEY was born 23d March, 1859, at Worcester; studied at West Newton English and Classical School, 1872–76. B.Sc., Boston Univ., 1880; engaged in the flour and grain business, Worcester, 1881–83; hotel clerk, Amherst, 1884; farmer, Worcester, since 1885. Married, 6th March, 1884, at Barre, Mary E. Rogers. Address, Worcester, Mass.

ALMON HUMPHREY STONE was born 28th February, 1856, at Sterling; prepared for college at Templeton and Athol High Schools. B.Sc., Boston Univ., 1880; graduate student, Mass. Agr'l Coll., 1881; engaged in farming at Phillipston, 1881–85; teacher, Starr's Military Institute, North Tarrytown, N. Y., since 1885. Address, North Tarrytown, N. Y.

CLASS OF 1881.

CHARLES ABEL BOWMAN was born 27th April, 1861, at Billerica; prepared for college at Howe School, Billerica. Engaged in farming for a short time; hotel clerk, Hyde Park, eight months;

teacher, Westfield, four months; Asst. Engineer, with Aspinwall and Lincoln, Boston, since 1883. Address, 7 Exchange Place, Boston.

CHARLES ENOCH BOYNTON was born 16th March, 1860, at Groveland. Studied law with Copeland and Edgley, Great Falls, N. H., and Brickett and Poor, Haverhill, 1881–82; travelling agent, Cincinnati, Art Co., 1882–83; in the employ of the Haverhill Paper Co., Haverhill, since 1884. Address, Haverhill, Mass.

WALTER FRANK CARR was born 1st January, 1861, at Holyoke; prepared for college at Clinton High School. Mass. Inst. of Technology, Boston, 1881–84; B.Sc., Mass. Inst. of Tech., 1884; Asst. Engineer, Boston and Lowell R. R., 1884; Asst. Professor of Civil Engineering and Physics, University of Minnesota, Minneapolis, Minn., 1884–85; Civil Engineer and Landscape Architect, Minneapolis, Minn., since 1885. Married, 25th August, 1885, at Foxboro, Alice J. Merrill of Mansfield. Address, Spalding and Carr, Minneapolis, Minn.

System of Sewers for Clinton, Mass. (Pamphlet.)

HENRY EDGERTON CHAPIN was born 9th May, 1859, at Wilbraham; prepared for college at Springfield Collegiate Institute. B.Sc., Boston Univ., 1881; teacher, High Schools, Boylston, and Longmeadow, 1881–82; instructor in Tactics and Mathematics, Military Academy, Granville, N. Y., 1882–83; junior associate editor, *Farmer's Review*, Chicago, 1883–84; asst. editor, *North Carolina Farmer*, Raleigh, N. C., 1884; instructor in the Sciences and Tactics, Greylock Institute, South Williamstown, 1885; editor, *Tribune and Farmer*, Greenfield, 1885, and associate editor, *American Cultivator*, Boston, since 1886. Address, 220 Washington St., Boston.

FRANK HAMILTON FAIRFIELD was born 4th January, 1860, at Waltham. Graduate student in Chemistry, Mass. Agr'l Coll., 1881–82; Chemist, Standard Fertilizer Co., Boston, 1882–84; same, South Duxbury, since 1884. Member of the Amer. Assoc. for the Advancement of Science. Address, South Duxbury, Mass.

CHARLES LOUIS FLINT, Jr., was born 9th March, 1861, at Boston; studied at the Mass. Institute of Technology, Boston, 1876–77.

B.Sc., Boston Univ., 1881; travelled in Labrador, Cuba, California, and the North West Territories, 1881–84; studied book-keeping, Sawyer's Commercial College, Boston, 1884–85; stock broker in the firm of Dole & Flint, Boston, since 1885. Member of the New England Historic Genealogical Soc. Address, Dole & Flint, 7 Exchange Place, Boston.

Boonzo Hashiguchi was born 8th March, 1856, at Cangozima, Japan; prepared for college at public schools, Lexington, Ky. Studied Agriculture in Europe, 1883-84; President of the Government Sugar Beet Company, Dept. of Commerce and Agriculture, Tokio, Jap., since 1883. Married, 29th November, 1881, at Tokio, Jap., Miss Chika. Address, Tokio, Japan.

Joseph Lawrence Hills was born 2d March, 1861, at Boston; studied at the Boston Latin School, 1874–77. B.Sc., Boston Univ., 1881; graduate student in Chemistry, Mass. Agr'l Coll., 1881–84; Asst. Chemist, Mass. Agr'l Expt. Station, Amherst, 1882–83; Asst. Chemist, New Jersey Agr'l Expt. Station, New Brunswick, N. J., 1884-85; Chemist, Phosphate Mining Co., Limited, Beaufort, S. C., since 1885. Member of the Amer. Assoc. for the Advancement of Science. Address, Beaufort, S. C.

Elmer Dwight Howe was born 10th September, 1860, at Marlboro. Engaged in farming at Marlboro, since 1881. Overseer of Marlboro Grange. Married, 10th September, 1884, at Marlboro, Leonora M. Bemis. One son. Address, Marlboro, Mass.

Contributed a few articles on ensilage, etc., to the agricultural journals.

Austin Peters, D.V.S., was born 1st June, 1859, at West Roxbury; prepared for college at the Eliot School, Jamaica Plain. B.Sc., Boston Univ., 1881; American Veterinary College, N. Y. City, 1881–83; D.V.S., Amer. Vet. Coll., 1883; studied at the Harvard Medical School, 1883–84, and at the Royal Veterinary College, London, Eng., 1884–85; M.R.C.V.S., London, 1885; Veterinarian to the Mass. Soc. for Promoting Agriculture, since 1885. Member of the United States, and Mass. Veterinary Societies. Address, Adams Building, Court St., Boston.

An American Veterinarian's Impressions of the Profession in England. (*Jour. of Comp. Med. and Surg.*, Oct., 1885.)

EDWARD BRIGGS RAWSON was born 31st July, 1860, at Dover. B.Sc., Boston Univ., 1881; civil engineer, N. Y., L. E. and W. R. R., 1881–84; deputy county surveyor, Stewart, Holt Co., Neb., 1884; engaged in farming, Lincoln, Loudoun Co., Va., 1884–85; principal, Oakdale School, Lincoln, Va., since 1885. Address, Lincoln, Va.

HIRAM FRED MARKLEY SMITH, M.D., was born 16th February, 1859, at Whately; prepared for college at Hopkins High School, Hadley, and Penn Yan High School, Penn Yan, N. Y. Graduate student in Chemistry, Mass. Agr'l Coll., 1881–82; Harvard Medical School, 1882–85; M.D., Harvard, 1885; practiced at Worcester, 1885, and Orange, since 1886. Fellow of the Mass. Medical Soc. Address, Orange, Mass.

ABEL WALTER SPALDING was born 5th August, 1859, at Billerica; studied at Worcester Academy, 1876–77. B.Sc., Boston Univ., 1881; clerk, Ripley and Kimball, St. Louis, Mo., 1881–85; Civil Engineer and Landscape Architect, Minneapolis, Minn., since 1885. Address, Spalding and Carr, Minneapolis, Minn.

A few contributions to the newspapers.

FREDERIC PATTERSON TAYLOR was born 31st October, 1857, at Boston; prepared for college at English High School, Boston. B.Sc., Boston Univ., 1881; foreman, "Vine Hill Farm," Hartford, Ct., 1881–83; engaged in general and stock farming, Athens, Tenn., since 1883. Married, 18th September, 1884, at Athens, Tenn., M. F. Owen. One daughter. Address, Athens, Coke Co., Tenn.

CLARENCE DUANE WARNER was born 16th June, 1852, at Granby; studied at Monson and Wesleyan Academies, 1871–73; student and asst. teacher, Salem Collegiate Institute, Salem, N. J., 1874–75; on a ranch in Colorado, 1875; teacher and student, Salem, N. J., 1876–77; prepared for Amherst College, but entered the Mass. Agr'l Coll., 1878. Principal teacher, State Reform School, Providence, R. I., 1882; studied Mathematics under Prof. J. J. Sylvester, F.R.S , etc., at Johns Hopkins University, Baltimore, Md., 1883–84; Professor of Mathematics and Physics, Mass. Agr'l Coll., since 1884. Address, Amherst, Mass.

Mensuration. Northampton, 1886.

Also a number of contributions to agricultural papers and journals.

ARTHUR WHITAKER was born 16th October, 1859, at Southbridge; prepared for college at public schools, Needham. Engaged in farming, Needham, since 1881. Address, Needham, Mass.

HENRY HARRISON WILCOX was born at Waioli, Kauai, Hawaiian Islands; studied at Oahu College, Honolulu, H. I. Sugar planter at Lihue, Kauai, H. I., since 1881. Address, Lihue, Kauai, H. I.

CLASS OF 1882.

FRANCIS SHERWIN ALLEN, M.D., D.V.S., was born 8th October, 1856, at Medfield; studied at West Newton English and Classical School, 1875–76 and 1877–78. Student, American Veterinary College, N. Y. City, 1882–84; D.V.S., Amer. Vet. Coll., 1884; house surgeon, Amer. Vet. Hosp., 1884–85; Univ. City of N. Y. Medical School, 1885–86; M.D., Univ. City of N. Y., 1886. Member U. S. Veterinary Association. Address, Medfield, Mass.

Sarcomatous Tumor of the Maxillary Space. (*Am. Vet. Rev.*, July, 1884.)

Progressive Paraplegia—Necroses of the Dorsal Vertebrae. (*Am. Vet. Rev.*, Nov., 1884.)

GEORGE THOMAS APLIN was born 29th June, 1862, at Putney, Vt.; prepared for college at Keene High School, N. H. Engaged in farming at Putney, Vt., since 1882. Address, East Putney, Vt.

CHARLES EDWARD BEACH was born 2d September, 1862, at Hartford, Ct. B.Sc., Boston Univ., 1882; engaged in farming, "Vine Hill" and "Ridge Farms," West Hartford, Ct., since 1882. Address, care Beach & Co., Hartford, Ct.

EUGENE PERCIVAL BINGHAM was born 13th May, 1861, at Lunenburg. B.Sc., Boston Univ., 1882; drug clerk, Boston, 1882; manufacturer of chemicals and bleacher of straw goods, Boston, since 1882. Married, 17th March, 1883, at Boston, Annie McAllister. One daughter. Address, 13 Foster's Wharf, Boston.

WILLIAM HERBERT BISHOP was born 11th June, 1859, at Arnold's Mills, R. I.; studied at Friends N. E. Boarding School, Providence, R. I., 1874-75, and North Attleboro High School, Mass., 1876–77. Engaged in farming at Arnold's Mills, R. I., and clerk, James Nicholas, Mount Vernon, N. Y., 1882; supt. of expt. dept., seed farm, Hiram Sibley & Co., Rochester, N. Y., 1882–83; supt. Agr'l Dept., Tongaloo University, Tongaloo, Miss., since 1883. Address, Tongaloo, Miss.

HENRY SNOWDEN BRODT was born 1st February, 1863, at Marysville, Cal.; prepared for college at Dansville Seminary, Dansville, N. Y. Engaged in surveying, N. Y., West Shore and Buffalo R. R., at Rondout and Frankfort, N. Y., 1883–84; clerk, J. H. Baker, Dansville, N. Y., 1884; locating claims, Powder River Oil Country, Riverside, Wyo., 1884–85; on a ranch, Sweetwater River, 1885; clerk, J. W. Hugus & Co., Rawlins, Wyo., since 1885. Address, Rawlins, Wyoming Territory.

EVERETT SAWYER CHANDLER was born 5th June, 1861, at Coldwater, Mich.; prepared for college at Coldwater High School, Mich.; studied law at Harvard Law School, 1882–84, and with Sumner Albee, Esq., Boston, 1884-85; admitted to the Massachusetts bar, in Suffolk county, 21st July, 1885; practiced at Beatrice, Neb., since 1885. B.Sc., Boston Univ., 1885. Address, Beatrice, Gage Co., Neb.

JAMES WILLARD COOPER, Jr., was born 19th March, 1861, at East Bridgewater. Studied medicine with Dr. George E. Freeman, Brockton, 1882–83; copyist, law office of W. H. Osborne, Esq., E. Bridgewater, 1883; clerk in a drug store at E. Bridgewater, 1883–84, S. Abington, 1884–85, and E. Weymouth, since 1885. Address, East Weymouth, Mass.

JOHN ASHBURTON CUTTER, M.D., was born 27th June, 1863, at Woburn; studied at Cambridge High School, 1877–78. B.Sc., Boston Univ., 1882; employed on a farm, N. Glastonbury, Ct., spring and summer, 1883, '84, and '85; studied medicine with his father, Ephraim Cutter, M.D., and at Albany Medical College, Albany, N. Y., 1883–86; M.D., Albany Med. Coll., 1886; physician, N. Y. City, since 1886. Address, Ariston, Broadway and 55th St., N. Y. City.

Collated table upon wiring fracture of patella. (*N. Y. Med. Jour.*, April, 1886.)

SAMUEL CHESTER DAMON was born 2d November, 1858, at Ashby; graduated at Lancaster High School. B.Sc., Boston Univ., 1882; engaged in farming at Lancaster, since 1882. Member of School Committee, since 1883, and president, Farmers Club, 1883–85. Address, Lancaster, Mass.

*CHARLES WALTER FLOYD was born 22d November, 1858, at Worcester; graduated at Dorchester High School. B.Sc., Boston Univ., 1882. Received the second Grinnell prize. Graduate student in Chemistry, Mass. Agr'l Coll., 1882–83. Died of phthisis, at Dorchester, 10th October, 1883.

DAVID GOODALE was born 17th February, 1861, at Honolulu, H. I. B.Sc., Boston Univ., 1882; engaged in farming at Marlboro, since 1882. Address, Marlboro, Mass.

CHARLES DEXTER HILLMAN was born 9th May, 1860, at Hardwick; studied at Hitchcock Free High School, Brimfield, 1876–77. Nurseryman at Fresno City, Cal., since 1882. Address, Fresno City, Cal.

JOSEPH HENRY HOWARD was born 15th November, 1863, at Hyannis. Meter inspector, Springfield Gas Co., Springfield, 1882–84; farmer, Minnecela, Butte Co., Dak., since 1884. Address, Minnecela, Dak.

GEORGE DICKINSON HOWE was born 10th December, 1863, at Waterbury, Ct.; studied at Hopkins Academy, Hadley, 1877–78. B.Sc., Boston Univ., 1882; student, Summer School of Languages, Amherst, 1882–83; studied book-keeping at Eastman National Business College, Poughkeepsie, N. Y., 1883; book-keeper and mechanic, North Hadley, since 1883. Address, North Hadley, Mass.

MORRIS BIRD KINGMAN was born 13th February, 1862, at Charlemont. Employed, Botanical Dept., Mass. Agr'l Coll., since 1882. Address, Amherst, Mass.

BURTON ARIAL KINNEY was born 25th December, 1860, at Lowell. Acting engineer, Lowell Bleachery and Dye Works, Lowell, and teacher in a district school, Dracut, 1883; entered the U. S.

Signal Service, 1883, and studied at the Signal Service School of Instruction, Fort Myer, Va., six months; asst. observer, Signal Corps, U. S. A., Provincetown, 1884, and Portland, Me., 1884–86; observer in charge at Portland, Me., since 1886. Address, Signal Corps, U. S. A., Portland, Me.

FREDERICK GODDARD MAY was born 18th February, 1861, at Boston; studied at Leicester Academy, 1876–78. B.Sc., Boston Univ., 1882; orange grower, Orlando, Orange Co., Fla., since 1883. Address, Orlando, Orange Co., Fla.

WILLIAM AUSTIN MORSE was born 15th June, 1862, at Boston; studied at English High School, Boston, two years. B.Sc., Boston Univ., 1882; general assistant and instructor in printing, Farm School, Thompson's Island, Boston, 1882–83; student, Eastman Business College, Poughkeepsie, N. Y., 1883; in the employ of the Dennison Manufacturing Co., Boston, 1883–84; asst. supt. and instructor in printing, Farm School, Thompson's Island, Boston Harbor, since 1884. Address, Thompson's Island, Boston Harbor.

HERBERT MYRICK was born 20th August, 1860, at Arlington; studied at Castine High School, Me., 1872, and Jarvis Hall, Denver, Colo., 1876. B.Sc., Boston Univ., 1882; agricultural editor of *New England Homestead* and *Farm and Home*, Springfield, since 1882. Married, 15th August, 1885, at Philadelphia, Pa., Elvira Lawrence Kenson, of San Francisco, Cal. Address, *New England Homestead*, Springfield, Mass.

Money Crops; How to Grow and How to Sell Them. Springfield, 1885. Also editor "Artificial Poultry Raising," etc.

JAMES BRECKENRIDGE PAIGE was born 28th December, 1861, at Prescott. Engaged in farming at Prescott, since 1882. Supt. of public schools, Prescott, 1885–86. Married, 28th December, 1885, at Bondsville, Ada M. Russell. Address, Prescott, Mass.

DANA EDSON PERKINS was born 9th September, 1861, at Wakefield. Clerk in a store, Wakefield, 1882; in the employ of the Mississippi River Commission, 1882–83; asst. engineer, same, 1883–84; asst. for Geo. N. Bell, civil engineer, Newport, R. I.,

1884; Mississippi River Commission, 1884–85. Married, 16th March, 1886, at Chelsea, Ruth Fielding. Address, Wakefield, Mass.

CHARLES SUMNER PLUMB was born 21st April, 1860, at Westfield; prepared for college at Westfield High School. Graduate student in Chemistry, Mass. Agr'l Coll., 1882; in the employ of Henry A. Ward, Esq., Rochester, N. Y., 1883; on the editorial staff, *Rural New Yorker*, N. Y. City, 1883–84; asst. director, New York Agr'l Expt. Station, Geneva, N. Y., since 1884. Address, Geneva, N. Y.

ASA FRANK SHIVERICK was born 26th September, 1861, at East Dennis; studied at Lawrence Academy, Falmouth, 1876–78. B.Sc., Boston Univ., 1882; Chemist and asst. manager, works of Pacific Guano Company, Wood's Holl, and Charleston, S. C., since 1883. Member of the Amer. Assoc. for the Advancement of Science. Address, Wood's Holl, Mass.

WINTHROP ELLSWORTH STONE was born 12th June, 1862, at Chesterfield, N. H., prepared for college at Amherst High School. Assistant, Expt. Dept., Houghton Farm, Mountainville, N. Y., 1882–84; Asst. Chemist, Mass. Agr'l Expt. Station, Amherst, since 1884. B.Sc., Boston Univ., 1886. Member of the Amer. Assoc. for the Advancement of Science. Address, Amherst, Mass.

Soil Temperatures. (*Trans. N. Y. Agr'l Soc.*, 1883.)
Report on Agricultural Physics. (*Houghton Farm*, 1884.)
Special Fertilizers for Small Fruits. (*Amer. Garden*, Sept., 1884.)
Sweet Ensilage. (*Country Gentleman*, Oct., 1885.)
Indian Corn.—Maturity of Seed. (*Country Gentleman*, Oct., 1885.)
Also numerous minor papers on agricultural subjects contributed to the agricultural press.

LEVI RAWSON TAFT was born 22d August, 1859, at Mendon; studied at Mendon High School, 1874–78. B.Sc., Boston Univ., 1882; assistant, Botanical Dept., Mass. Agr'l Coll., 1882–85, and Asst. Professor of Horticulture and bursar, same, 1883–85; Professor of Horticulture and Asst. Professor of Biology, University of the State of Missouri, Columbia, Mo., since 1885. Married, 4th June, 1884, at Northboro, Ella S. Maynard. One daughter. Address, Columbia, Mo.

Contributed various articles on horticultural subjects to the agricultural press.

ALFRED HOWLAND TAYLOR was born 2d October, 1861, at Yarmouth; studied at West Newton English and Classical School, 1877–78. B.Sc., Boston Univ., 1882; travelled extensively in the United States, 1883; dealer in live stock at Sioux Falls, Dak., 1884, and at Burnett, Neb., since 1885. Address, Burnett, Madison Co., Neb.

WILBUR HERBERT THURSTON was born 17th March, 1860, at Upton; studied at McGill Model School, Montreal, Ca., 1873–74. B.Sc., Boston Univ., 1882; engaged in farming, Upton, 1882–84; employed, Expt. Dept., Houghton Farm, Mountainville, N. Y., 1884–85; manager, White's Dairy Farm, Staten Island, N. Y., 1885; partner and manager, "Tusculum Farm," Rome, O., since 1885. Address, Stouts P. O., Adams Co., Ohio.

JOHN EMERY WILDER was born 16th April, 1861, at Lancaster; studied at Lancaster High School, 1874–78. B.Sc., Boston Univ., 1882; salesman, Wilder & Hale, wholesale dealers in leather, Chicago, Ill., since 1882. Married, 14th April, 1886, at Oak Park, Ill., Laura Gertrude Hurlbut. Address, 179 Lake St., Chicago, Ill.

JAMES STODDARD WILLIAMS was born 8th September, 1859, at Glastonbury, Ct.; graduated at Glastonbury Academy, 1878. B.Sc., Boston Univ., 1882; engaged in farming and breeding Jersey cattle, Glastonbury, Ct., since 1882; travelled in Europe and imported a herd of Jersey cattle, 1883. President of the Farmers Club, 1884–85; secretary of Glastonbury Grange and president of Glastonbury Co-operative Creamery Co., since 1886. Address, Glastonbury, Ct.

JOSEPH LIBBEY WINDSOR was born 8th August, 1861, at Marion, Ia.; prepared for college at Grafton High School. Assistant, Expt. Dept., Houghton Farm, Mountainville, N. Y., 1882–83; secretary to local treasurer, Northern Pacific R. R. Co., St. Paul, Minn., 1883–85; private secretary to President of Chicago City Railway Co., Chicago, Ill., since 1885. Address, 2020 State St., Chicago, Ill.

CLASS OF 1883.

SYDNEY CURRIER BAGLEY was born 18th August, 1862, at Boston; prepared for college in the public schools, Boston. Clerk, Gary Magneto-Signal Co., Boston, 1883-84; plumber, Boston, 1884–86. Address, 35 Lynde St., Boston.

EDGAR ALLEN BISHOP was born 26th March, 1861, at Arnold's Mills, R. I.; prepared for college at North Attleboro High School. B.Sc., Boston Univ., 1883; engaged in farming at Cumberland, R. I., 1883–85; supt., Agr'l Dept., Talladega College, Talladega, Ala., since 1885. Address, Talladega, Ala.

DOMINGOS HENRIQUE BRAUNE was born 11th March, 1859, at Rio de Janeiro, Brazil. B.Sc., Boston Univ., 1883; planter at Nova Friburgo, Province of Rio de Janeiro, Braz., since 1883. Address, Nova Friburgo, Province of Rio de Janeiro, Brazil.

ALFRED ARMAND HEVIA was born 17th October, 1861, at Havana, Cuba; studied at Peekskill Military Academy, Peekskill, N. Y. B.Sc., Boston Univ., 1883; agent for Washington Life Insurance Co., N. Y. City, Guatemala, C. A., and Mexico, since 1883. Married, 17th October, 1883, at Brooklyn, N. Y., Rhoda G. Clark. One son. Address, 21 Courtlandt St., N. Y. City.

SAMUEL MOREY HOLMAN, Jr., was born 1st January, 1862, at Norton; studied at Morey and Gaff, and Bryant and Stratton Business Colleges, Providence, R. I. B.Sc., Boston Univ., 1883; studied at Harvard Medical School, 1883–84; manufacturer, Attleboro, since 1884. Married, 1st January, 1886, at West Falmouth, Virtue E. Swift. Address, Attleboro, Mass.

JOSEPH BRIDGEO LINDSEY was born 26th December, 1862, at Marblehead; graduated from Marblehead High School, 1880. B.Sc., Boston Univ., 1883; Asst. Chemist, Mass. Agr'l Expt. Station, Amherst, 1883–85; Chemist and chemical agent, L. B. Darling Fertilizer Co., Pawtucket, R. I., since 1885. Address, Pawtucket, R. I.

CHARLES WALTER MINOTT was born 1st April, 1859, at Westminster. B.Sc., Boston Univ., 1883; gardener at Worcester,

1883–84, and market gardener and fruit grower, Three Rivers, since 1884. Married, 28th October, 1885, at Westminster, Fanny E. Estey. Address, Ruggles & Minott, Three Rivers, Mass.

DAVID OLIVER NOURSE was born 19th August, 1861, at Bolton. B.Sc., Boston Univ., 1883; employed at Mass. Agr'l Expt. Station, Amherst, 1883–84; supt., Conn. Valley Orchard Co., Berlin, Ct., 1884–85; engaged in farming at Bolton, 1885–86; foreman, Mass. Agr'l Coll. Farm, since 1886. Address, Amherst, Mass.

CHARLES HENRY PRESTON was born 22d March, 1863, at Danvers; prepared for college at Danvers High School. B.Sc., Boston Univ., 1883; Asst. Chemist, Mass. Agr'l Expt. Station, Amherst, 1883–84; Chemist in the employ of Dr. B. F. Davenport, state analyst, etc., Boston, since 1884. Address, 161 Tremont St., Boston.

HOMER JAY WHEELER was born 2d September, 1861, at Bolton; prepared for college at Bolton High School. B.Sc., Boston Univ., 1883; Asst. Chemist, Mass. Agr'l Expt. Station, Amherst, since 1883. Address, Amherst, Mass.

CLASS OF 1884.

*HENRY EDWARD VICTOR GOESSMANN died 27th April, 1882, at Amherst, of cerebral abscess, aged 17 years.

CHARLES HERMS was born 22d September, 1864, at Louisville, Ky.; prepared for college at public schools, Louisville, Ky. B.Sc., Boston Univ., 1884; engaged in farming, O'Bannon Station, Ky., 1884–85; agricultural editor, *Dickson County Press*, Dickson, Tenn., 1886; farmer, O'Bannon, Ky., since 1886. Address, O'Bannon Station, Jefferson Co., Ky.

HARRY DICKINSON HOLLAND was born 28th September, 1863, at Amherst. B.Sc., Boston Univ., 1884; employed at "Deerfoot Farm," Southboro, 1884; clerk, S. Holland & Son, Amherst, since 1885. Address, Amherst.

ELISHA ADAMS JONES was born 17th October, 1859, at Rockville; studied at Phillips Academy, Andover, 1878–79. B.Sc., Boston Univ., 1884; landscape gardener, Washington, D. C., 1885; supt., "Woodfield Farm," Logan Station, Philadelphia, Pa., since 1886. Married, 12th August, 1884, at N. Amherst, Lessie E. Brown. Address, Logan Station, Phila., Pa.

LLEWELLYN SMITH was born 27th September, 1863, at Rochester, N. Y. Graduate student in Chemistry, Mass. Agr'l Coll., 1884–85; Asst. Chemist, Mass. Agr'l Expt. Station, Amherst, 1885–86; Chemist, Jefferds' Fertilizer Co., Worcester, since 1886. Address, care J. G. Jefferds, Worcester, Mass.

CLASS OF 1885.

EDWIN WEST ALLEN was born 28th October, 1864, at Amherst; studied at Amherst High School. B.Sc., Boston Univ., 1885; graduate student in Chemistry (and late bursar), Mass. Agr'l Coll., since 1885. Address, Amherst, Mass.

LUCIANO JOSE DE ALMEIDA was born 31st December, 1860, in Portugal; studied at School of Mines, Columbia College, N. Y. B.Sc., Boston Univ., 1885. Planter at Bananal, Sao Paulo, Braz., since 1885. Address, Bananal, Province of Sao Paulo, Brazil.

GEORGE HOLCOMB BARBER was born 15th November, 1864, at Glastonbury, Ct.; graduated at Glastonbury Academy, 1881. B.Sc., Boston Univ., 1885; student, College of Physicians and Surgeons, N. Y. City, since 1885. Address, 313 W. 47th street, N. Y. City.

CHARLES WILLIAM BROWNE was born 2d September, 1865, at Salem; prepared for college at Salem High School. B.Sc., Boston Univ., 1885; engaged in farming at Temple, N. H., since 1885. Address, Temple, N. H.

JOEL ERNEST GOLDTHWAIT was born 18th June, 1866, at Marblehead; studied at Marblehead Academy, 1879–80, and at Recker's

and Bradford's Commercial College, 1880–81. B.Sc., Boston Univ., 1885; student, Harvard Medical School, since 1885. Address, 28 Harwich St., Boston.

HEZEKIAH HOWELL was born 28th November, 1864, at Monroe, N. Y.; prepared for college at school, Blooming Grove, N. Y. B.Sc., Boston Univ., 1885; farmer, Monroe, N. Y., since 1885. Address, Monroe, Orange Co., N. Y.

LEWIS CALVERT LEARY was born 4th April, 1860, at Brooklyn, N. Y.; prepared for college at Williston Seminary, Easthampton. B.Sc., Boston Univ., 1885; student, Harvard Divinity School, since 1885. Address, 23 Irving St., Cambridge, Mass.

CHARLES SHEPERD PHELPS was born 5th December, 1861, at Northampton. B.Sc., Boston Univ., 1885; graduate student in Chemistry, Mass. Agr'l Coll., 1885-86; Asst. Chemist, Mass. Agr'l Expt. Station, Amherst, since 1886. Address, Amherst, Mass.

ISAAC NEWTON TAYLOR, Jr. was born 20th July, 1863, at Northampton. B.Sc., Boston Univ., 1885; teacher, St. John's Military Academy, Haddonfield, N. J., 1885–86. Address, Northampton, Mass.

BENONI TEKIRIAN was born 27th February, 1862, at Yozgad, Turkey; studied at Theological Seminary, Marsovan, Turkey. B.Sc., Boston Univ., 1885; engaged in farming, Mason, Mich., since 1886. Address, Mason, Ingham Co., Mich.

OCCUPATIONS AND ADDRESSES

OF

NON-GRADUATES.

Frederick Norman Abercrombie, book-keeper, 143 South Street, Boston; address, Arlington.

Frank Edgar Adams, lumber commission merchant, Box 26, station W, Brooklyn, L. I.

Edward Percival Alexander, reporting clerk, Louisville & Nashville R. R., Nashville, Tenn.

George Dickinson Allen, fruit grower, Vacaville, Solano Co., Cal.

Matthew Joseph Allen, clerk, Long Island Railroad Co., Brooklyn, L. I.; address, Marion.

William Campbell Ames, grocer, W. C. & E. Ames, North Adams.

George Christ Andreae, clerk, 73 Mercer Street, New York City.

*Robert Whipple Annable died 14th March, 1878, at Portsmouth, N. H., from an affection of the brain, aged 27 years.

Smith Ariail, farmer, Monterey, Berkshire County.

Horace Ward Atwood, machinist, Orange.

Charles Parmelee Auger, farmer, Middlefield, Conn.

David Ebenezer Avery, Plymouth.

*Frank Rhodes Avery died 2d June, 1886, at Jamestown, N. Y., from an affection of the brain, aged 32 years.

Warren Ayer, mail carrier, 75 East Haverhill Street, Lawrence.

George Henry Thomas Babbitt (U. S. Naval Acad., 1875), assistant engineer, U. S. Navy and instructor in Marine Engineering, U. S. Naval Academy, Annapolis, Md.

Jonathan Bailey, machinist, 41 Evergreen Street, Providence, R. I.

Frederick William Baker, dealer in hardware and agricultural implements, Baker & Barnard, San Buenaventura, Cal.

NOTE.—This list does not include the names of undergraduates.

Gillman Kimball Ball, farmer, Vinton, Benton Co., Iowa.
Jonathan Franklin Bancroft, farmer, Tyngsboro.
Strong Hayden Barber, farmer, Windsor, Conn.
Daniel Packer Bardwell, farmer, Bardwell's Ferry.
Charles Augustus Barker, farmer, 23 Eaton Street, Charlestown.
John King Barker, farmer, Three Rivers.
Fiuza Barreto; address unknown.
Fletcher Kneeland Barrows, fancy dry goods merchant, Brattleboro, Vt.
William Barrows, milkman, Lexington.
William Hale Barstow, dealer in live stock and horse breeder, Crete, Neb.
Edward Little Bass, farmer, West Randolph, Vt.
George Henry Bell, book-keeper, Carson, Nev.
John Emery Bement, milkman, North Amherst.
Charles Humphrey Bissell, book-keeper, New Britain, Conn.
Edwin Augustus Blankinship, machine operator, Brockton.
Albert Nathaniel Bliss, fruit and produce commission merchant, Bliss & French, Des Moines, Ia.
Alonzo Hutchinson Blood, teacher, Quincy.
Charles Easty Blunt, grocer, Nashua, N. H.
Henry Bond, purchasing agent for American Watch Co., Waltham.
John Wilson Brainard, farmer, Palmer.
* Webster Breck died 4th March, 1878, at Newton, of phthisis, aged 26 years.
Timothy Richard Breen, wire worker, 315 Cambridge Street, Worcester.
Louis Willard Briggs, assistant manager sugar plantation of F. D. Robertson; address, Plaquemine, Iberville Parish, La.
Edwin Franklin Bristol, mechanic, Lebanon, N. H.
Paul Cuff Phelps Brooks, B.Sc. (N. H. Coll. of Agric.) 1885, student, Harvard Veterinary School; address, 97 Kendall Street, Boston.
William Cummings Brooks, civil engineer, City Engineer's Office, Boston.
Charles Henry Brown, travelling salesman for Hopkins & Rossell, 80 Cliff Street, New York; address, 56 Summer Street, Taunton.
Clarence Eaton Brown, silver plater, Northampton.

Frederick Willard Brown, student, Harvard College; address, West Medford.

*Henry Clinton Brown died February, 1884, at Ormon, Fla., of peritonitis, aged 21 years.

Herbert Lewis Brown, dealer in ice, South Peabody.

Charles Owen Buffington, dealer in provisions, Ware.

William Ebenezer Bullard, M.D. (Dartmouth, 1873; Coll. of Phys. and Surg., N. Y., 1874), physician, 112 East 40th Street, New York City.

Lewis Buoncore, farmer, Wayland.

H. P. Camargo, Campinas, Sao Paulo, Brazil.

Charles Henry Campbell, farmer and stock breeder, Westminster West, Vt.

Thomas Allyn Capen, M.D. (Hahn. Med. Coll.) 1872, physician, 2146 Seventh Avenue, Harlem, New York City.

Peleusia Cardoso; address unknown.

Charles Brown Carey, commercial traveller, 7 Archer Place, Avondale, Cincinnati, O.

Manuel Dias Carneiro, planter; address, Illmo Snr. Manuel D. Carneiro, Caxias, Province of Maranhoa, Brazil, S. A.

Herbert Mason Carter, dealer in shoes, 111 Wisconsin Street, Milwaukee, Wis.

Samuel Marshall Carter, farmer, Gardner.

Walter Edward Carter; address unknown.

William Carvallo, Colonel and Governor of Vina del Mar; address, Senor Guillermo Carvallo, care of Senor Guillermo Brown, Casilla 525, Valparaiso, Chile, S. A.

*William Hubert Cary died 7th January, 1873, at Amherst, from an affection of the heart, aged 25 years.

Willis Washburn Cary, farmer, Fishkill, N. Y.

Michael Fermen Casey, druggist, Mt. Vernon, N. Y.

Gregory Casparian, farmer, Nicomedia, Turkey.

Albert Hopkins Chadbourne, general advertising agent, Hewitt, Hosier & Chadbourne, 30 Union Square, New York City.

Willard Mayne Chandler; address, Boston.

Clinton Gerdine Chapin, farmer, Chicopee.

John Dorr Hayward Chaplin, machinist, San Bernardine, Cal.

Edward Brown Chapman, superintendent, cider and vinegar manufactory of T. P. Rogers & Son, 370 Washington Street, New York City; address, 11 Beacon Ave., Jersey City, N. J.

Edmund Taylor Chase, farmer, Deerfield Centre, N. H.

Harry Kirke Chase, care Messrs. Hervy & Marrenner, 148 South Fifth Avenue, New York City.

William Frederick Childs, business, 2 Wabash Avenue, Chicago, Ill.

Frank Ellsworth Chipman, lawyer (admitted to the Minnesota bar, in Ramsey Co., 1884), address, 349 Wabash Street, St. Paul, Minn.

Edgar Davis Chittenden, manufacturer of fertilizers, Chittenden, Barri & Sanderson, National Fertilizer Co., Bridgeport, Conn.

Charles Tilden Clark, employed in hat factory, South Framingham.

Lysander Lyman Clark, farmer, Easthampton.

Wallace Vallentin Clark, post-office clerk, Boston.

Wallis Olwin Clark, (West Point Milit. Acad., 1878), Lieut. 12th Infantry, U. S. Army; address, care Adjutant General, Washington, D. C.

William Jared Clark, manufacturer of sheet metal goods, Salem, Columbiana Co., O.

Henry Little Clarke, M.D. (Boston Univ.) 1884, physician, Fall River.

Cassius Morey Clay, agent, Leader Sewing Machine Co., 27 West Main Street, Meriden, Conn.

William Francis Cleland, dealer in dry goods, Natick.

Robert Armstrong Cochran, Jr., banker, Maysville, Ky.

Gabriel Codina, merchant, P. O. Box 242, Havana, Cuba.

*Francis Codman died 11th November, 1885, at Clyde Park (was thrown from a horse), aged 26 years.

Daniel Thompson Colby, publisher, Newburyport.

Daniel Pomeroy Cole, paper dealer, Springfield.

George Newell Collum, confectioner, 381 Main Street, Hartford, Conn.

William Henry Comins, farmer, North Hadley.

Charles Thompson Conger, student, University of Minnesota, Minneapolis, Minn.; address, care J. B. Conger, 77 Washington Place, New York City.

Roland Chittenden Cook, firm of William Crowley & Sons, needle manufacturers, 23 and 25 Thomas Street, New York City.

Rufus Lyman Cook, farmer, Hadley.

Charles Montague Cooke, lumber merchant, Honolulu, H. I.

Silas Rose Cooley, wholesale dealer in leaf tobacco, Northampton.

Alfred Bigelow Copeland, foreman, printing office, Springfield.

Belton Allyn Copp, cashier, National Whaling Bank, New London, Conn.; address, Groton, Conn.

Matthew Courtney, laborer, Amherst.

Elliot Addison Cowles, farmer, Bartow, Fla.

Walter Dickinson Cowls, farmer, North Amherst.

George Eben Crafts, book-keeper, Holyoke.

Charles Spencer Crandall, B.Sc. (Mich. State Agr'l Coll.) 1873, foreman of gardens, State Agr'l Coll., Mich.

Loring Crocker, Jr., importer of fancy groceries, 4 Chatham Row, Boston.

George Francis Currier, stone mason, Northampton.

Ralph Henry Cushman, farmer, Bernardston.

George Cutler, dry goods merchant, Amherst.

Charles Sumner Cutter, market gardener, Arlington.

Edward Chenery Damon, salesman, Honolulu, H. I.

*William Frederick Damon died 23d October, 1879, at Honolulu, H. I., aged 22 years.

Joseph Frank Daniels, draughtsman, Warnerville.

Edward Field Danks, milkman, Springfield.

Ira Calef Darling, manufacturer of fertilizing material, Union Stock Yards, Chicago, Ill.

Arthur Emmons Davis, photographer, Waltham.

George Williams Davis, farmer, West Stafford, Conn.

Robert Cutler Day, book-keeper, R. L. Day & Co., 14 Exchange Place, Boston.

William Lyman Day, farmer, Warren.

Charles Thomas Dean, farmer, Columbus, Ga.

*Thomas James Deland died 7th November, 1873, at Boston, from the results of a hernia, aged 20 years.

Julio Joaquin Delano, care Charles 2d Lathrop, Casilla 7, Santiago, Chile, S. A.

Richard Mather De Peu, chief clerk, superintendent's office, Northern Pacific R. R., Mandan, Dakota.

Frank Dennis Deuel, firm of George W. Doane & Co., real estate agents, Springfield.

Asa Williams Dickinson, lawyer (admitted to practice in New Jersey Supreme Court and U. S. Courts, 1880), Henry & Dickinson, 1 Montgomery Street, Jersey City, N. J.

Howard Wilmot Dickinson, LL.B. (Univ. of Mich.) 1885, lawyer, Devil's Lake, Dakota.

John Francis Dickinson, Leather Belting Co., Boston.

Walter Mason Dickinson, (West Point Milit. Acad., 1880), Lieut. 4th U. S. Cavalry; address, care Adjutant General, Washington, D. C.

James Quincy Dix, farmer, Lancaster.

Henry Mather Doubleday, contractor for putting up Edison's Electric Lights, Harrisburg, Penn.

William Horace Doubleday, salesman, hat commission house of Hawley, Hendel & Mohn, 145 Green Street, New York City.

Walter Hobart Doucet, fruit grower, Hammonton, N. J.

John Joseph Doyle, care John Doyle, Sunderland.

George Adams Duncan, travelling salesman, Novelty Stock Co., Grand Crossing, Ill.

*Charles Kittredge Dutton died 30th July, 1880, at Boston, of dysentery, aged 19 years.

Edwin Wells Dwight, farmer, Sherborn.

George Henry Eastman, banker and real estate agent, Storm Lake, Ia.

Harry Apeetcha Eaton, interpreter, Fort Buford, Dakota.

Edward Story Ellis, station agent, Old Colony Railroad, Yarmouthport.

Granville Alden Ellis, employ of Historical Publishing Co., 61 Broadway, New York City.

William Isaac Ely, grower of small fruits, Freehold, N. J.

George Endicott, E. M. (Columbia) 1883, mining engineer, member of engineer corps of Aqueduct Commission of New York City; address, P. O. Box 327, Sing Sing, N. Y.

Truman Page Felton, farmer, West Berlin.

Charles Sumner Fish; address, 188 I Street, South Boston.

Charles Abbott Fisk, cashier, Wason Manufacturing Co., Brightwood.

Frank Howard Fletcher, Townsend Harbor.

Edward Rawson Flint, farmer, Hubbardston.

Archibald Dick Flower, dealer in flour and grain, Ashfield.

John Henry Fowler, employed by Westfield Plate Co., Thompsonville, Conn.

Eugenio de Lacerda Franco, C. E. (Renssl. Polytech. Inst.) 1878, coffee planter, Araras, Sao Paulo, Brazil.

*John Leavitt French died 25th September, 1883, at East Boston, of meningitis, aged 34 years.

George Benedict Frisbie, shipping and commission merchant, 43 South Street, New York City.

Thomas Goddard Frothingham, manufacturer of jewelry, T. G. Frothingham & Co., 68 Broad Street, North Attleboro.

George Abbot Furness, special agent and adjuster for Liverpool and London and Globe Insurance Company, New York City; address, 148 South Fitzhugh Street, Rochester, N. Y.

William Edward Garrett; address unknown.

Samuel Smith Garrigues, Ph.D. (Goettingen) 1854, consulting chemist, Ann Arbor, Mich.

Milo Audubon Gaskill, farmer, Mendon.

Charles Finney Gibbs, florist and gardener, St. Johnsbury, Vt.

Edward Gillett, cultivator and dealer in wild flowers, Southwick.

Edwin Titus Goodale, chiropodist, 22 Winter Street, Boston.

Wilbur Francis Goodrich; address unknown.

Frank Washington Goss, farmer, South Lancaster.

Harry Morgan Gowdy, whip manufacturer, firm of A. C. Barnes & Co., Westfield.

George Gilman Graves, poultry raiser, Amherst.

Louis Bertrand Graves, clerk, W. J. Dyer & Bro., Minneapolis, Minn.

Frank Bradford Greene, farmer, Amherst.

William Henry Greene, painter and paperer, Mayrood, Cook Co., Ill.

Gustaf Georg Gröger, Jur. D. (Univ. of Vienna) 1884, late lieutenant, imperial and royal army of Austria; address, Austro-Hungarian Consulate, New York City.

Charles Bardwell Gunn, railroad conductor, Grand Island, Neb.

William Bradford Gunn, farmer, Easthampton.

William Ernest Hadwen, farmer, Worcester.

Albert Oliver Hall, dealer in provisions, Chelsea.

Alfred Sigourney Hall, market gardener, Revere.

*Frederick Augustus Hall died 31st August, 1869, at Amherst, of typhoid fever, aged 18 years.

Lemuel Webster Hall, dealer in meat and provisions, 3 Gorham Street, Lowell.

Edward Elbridge Hardy, insurance agent, Sear's Building, Boston; resides, Auburndale.

Frank Warner Harrington, firm of S. E. Harrington & Son, manufacturer of blinds, mouldings, etc., North Amherst.

Louis Lincoln Harris, travelling salesman for L. H. Beals & Co., whip manufacturers, Westfield.

Richard Brown Harris; address unknown.

George Stanley Hatch, clerk, treasury department, State House, Boston; address, West Medford.

Bradford Oakman Hathaway, carpenter, New Bedford.

Amasa Stetson Hawley, clerk, grocery store, Kansas City, Mo.

George Clifford Healey, farmer, Hampton Falls, N. H.

Sheridan Culbertson Heighway, M.D. (Med. Coll. of Ohio) 1885, physician, 88 West 7th Street, Cincinnati, O.

Jacob Esher Heyl, B.Sc. (Renssl. Polytech. Inst.) 1870, sugar refiner, Heyl Bros., Washington Avenue and Otsego Street, Philadelphia, Penn.

Charles Henry Hill, stationary engineer, 67 Boylston Street, Springfield.

Rufus Chester Hinsdale, employed in chair factory, Jacksonville, Vt.

*John Folsom Hobbs died 27th August, 1881, near Amsterdam, N. Y., from a railway accident, aged 22 years.

Joseph Oliver Hobbs, farmer and dealer in produce, North Hampton, N. H.

Harry Hawley Holmes, cattle raiser, Round Up, Yellowstone Co., Montana.

Samuel Judd Holmes, clerk, Bridgeport Brass Co., New York City; address, Montclair, N. J.

Joseph Clark Howard, farmer, West Bridgewater.

Edward Gardnier Howe, teacher of natural sciences, 312 Chicago Avenue, Chicago, Ill.

Winslow Brigham Howe, farmer, Marlboro.

Charles DeRuyter (formerly Moffatt) Howland, head clerk, sales department, Howard & Co., 29th Street and Fifth Avenue, New York City.

*Francis Henry Hubbard died 16th January, 1876, at San Francisco, Cal., from an overdose of opium, aged 25 years.

*George Eddy Humphrey died 23d September, 1878, at Rutland, Vt., of typhoid fever, aged 21 years.

Elisha Hubbard Hunt, clerk, with J. C. Vaughan, dealer in seeds, tools and bulbs, 42 La Salle Street, Chicago, Ill.

Andrew Jackson, hotel proprietor, Jackson & Wooster, Napa Soda Springs, Napa Co., California.

Henry Stranahan Jackson, dealer in fruit, Orange, N. J.
Isaac Samuel Jaqueth, chemist, Amherst.
Melvin Willard Jefts, purchasing agent for farmers, Ashby.
Arthur Clifford Johns, dealer in long leaf pine lumber, Gauss & Johns, San Antonio, Texas.
Frederick Durfee Johns, M. D. (Missouri Med. Coll.) 1874, physician, Leakey, Edwards Co., Texas.
Frank Prescott Johnson, civil and sanitary engineer and contractor, Waltham.
Edward Spalding Jones, clerk, White & Conant, 542 Main Street, Worcester.
Frank Waldo Jones, teacher, Brockton.
Nathaniel Nelson Jones, lawyer, Newburyport.
Frank Hall Joyner, civil engineer, North Egremont.
Charles Adelbert Judd, farmer, South Hadley Falls.
Arthur Munroe Judkins, clerk, Council Bluffs, Ia.
George Frank Kasmire, jeweller, New Bedford.
*David Wallace Kelleher died 1873 (?)
Charles Irving Kendall, book-keeper, Amherst.
Charles Robert Kenfield, general jobber, Amherst.
Albert King, dealer in wood, Taunton.
*John Ezra King died September, 1881, at South Norwalk, Ct., from septicaemia, aged 37 years.
William Hart Kingman, steward, United States Hotel, Hartford, Conn.
Willard Francis Kinsman, farmer, and breeder of Jersey cattle, Ipswich.
William Fletcher Knowles, M. D. (Harvard) 1885, physician, studying in Germany; address, West Somerville.
Reuben Knox, farmer, Willcox Wharf, Charles City Co., Virginia.
Alonzo Augustus Krauss; address unknown.
Charles Joseph Lang, student, Medical Department, University of Georgetown; address, Washington, D. C.
Joseph Dwight Lathrop, Sing Sing, N. Y.
Charles Follen Lawton, B.Sc. (Mass. Inst. Tech.) 1877, superintendent of coal mine, Anthracite, Colo.
Frank Hervey Leach, printer, Worcester.
William Edwin Leland, clerk, Standard Fertilizer Co., 30 Kilby Street, Boston.
Arthur Leonard, book-keeper, Malden.

*Frank Harris Lester died 13th November, 1874, at Central Village, Conn., of phthisis, aged 22 years.

Frank Burget Lindsey, lawyer (admitted to Connecticut bar, in Litchfield Co., 1882), Philmont, N. Y.

Nathaniel Lyon Livermore; address unknown.

John Morse Lockey, insurance agent at Fitchburg, Lockey & Alison; address, Leominster.

Stephen Henry Long, farmer, East Shelburne.

Francis Eugene Loomis, farmer, North Amherst.

Frank Kendall Lovell; address unknown.

Henry Lyman Lovell, superintendent, Fertilizer Works of R. J. Boker & Co., Locust Point, Baltimore, Md.

Alfred William Lublin, custom house broker and forwarding agent, Lublin & Esty, 19 William St., New York City.

Edward Childs Luques, banker and broker, Biddeford, Me.

Gardner Clark Luther, dealer in horses, hay, etc., 7 Shelden St., Providence, R. I.

Arthur Webster Lyman, farmer and market gardener, Southampton.

William Lyman, manufacturer, Middlefield, Conn.

William Scrugham Lyon, wool-grower, Anaheim, Cal.

Howard Albert McKenna, conductor, Northern New London Railroad, Amherst.

West Allen Mallory, farmer and miller, Ogdensburg, Wis.

William James Manton, farmer, Bellevue, Clay Co., Texas.

Wilbur Marriam March, dealer in groceries and provisions, Austin & March, Fort Scott, Kan.

Euao Edward Mattocks, ranchman, Glendive, Montana.

Walter Parker Mayo, V.S. (Montreal Vet. Coll.) 1885, veterinary surgeon, P. O. Box 936, Natick.

William George Mead, brick-layer, Springfield.

Charles Eddy Merchant, employed in shoe manufactory, East Weymouth.

Joel Hervey Merriam, merchant, South Abington.

James Cushing Merrill, farmer, Atkinson Depot, N. H.

Nathaniel Pinkham Merrill, farmer, "Walnut Hill Farm," North Blandford.

Walter Heston Merritt, repairer of chairs, Amherst.

Christopher Victor Mildeberger, farmer, Platt Clove, N. Y.

*David Knox Millard was drowned in the Connecticut River at the foot of Mt. Holyoke, 30th May, 1875, aged 21 years.
Henry Lewis Miller, dealer in meat and provisions, Greenfield.
Willie Smith Miller, farmer, Hadley.
James Kellogg Mills; last heard from at Leadville, Colo.
William Wales Mines; address unknown.
Edward Mitchell; address unknown.
William H. Mitchell; address unknown.
George Frederick Moody, bell-hanger, Hartford, Conn.
Frank Lester Moore, merchant, Tombstone, Arizona.
Guy Morey, agency clerk for New England Telephone & Telegraph Co., Boston; address, 33 Mt. Washington St., Lowell.
Frederick William Morris, employ of David G. Francis, 17 Astor Place, New York City.
Saitaro Naito, when last heard from engaged in translating English books into Japanese, at Tokio, Japan.
Masanojio Nakashima, address unknown.
Arthur Henry Nash, superintendent of apiary, Santa Monica, Los Angeles Co., California.
Edward Dana Nash, conductor Central Vermont Railroad, St. Albans, Vt.
John Adams Nash, Amherst.
Charles Vitallis Newman, stock raiser, Winfield, Mo.
Andrew Nichols, teacher of natural sciences, Asylum Station.
Luther Nims, farmer, Mt. Holly, Gaston Co., North Carolina.
Ichiskay Nomura, when last heard from engaged in the Agricultural Department, Japan.
Silas Johnson Nourse, foreman, with C. J. Griswold, Berlin, Ct.
Frederick Albion Ober, writer and lecturer, Beverly.
Remus Ould, mail carrier; address, care Lancaster Ould, Hamilton Terrace, Baltimore, Md.
Henry Willard Owen, farmer, Amherst.
Harry Cruse Paige, business, 25 Warren Street, New York City.
Coddington Billings Palmer, farmer, Huntington.
*Frank Waldo Palmer, died 15th August, 1877, at Amherst, of phthisis, aged 20 years.
Robert Manning Palmer, student, Amherst College; address, care Palmer & Bachelder, Boston.
Edward Herbert Parker, farmer, Cohasset.

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

*Francis Greenwood Parker, reported to have died in South America.

James Southworth Parker, student, Cornell University; address, Great Barrington.

Howard Albert Parsons, market gardener, North Amherst.

Cecil Hobart Peabody, B.Sc. (Mass. Inst. Tech.) 1877, assistant professor of Steam Engineering, Mass. Inst. of Tech., Boston.

Walter Sloan Pearce, journalist, engaged on *Philadelphia Record*, Philadelphia, Penn.

Charles Truman Pease, civil engineer, 534 Welton Street, Denver, Colo.

Charles Lowell Penhallow, farmer, Millsburgh, Dakota.

C. Penteado, Campinas, Sao Paulo, Brazil.

Charles Brookhouse Perkins, superintendent, Forbes Lithograph Co., Boston; address, Melrose.

William Henry Perkins, Perkins & Co., dealers in flour, grain, hay, and straw, Watertown.

Alfred Dwight Perry, no business; address, care Joseph S. Perry, Worcester.

Arthur Reed Perry, student, Phillips Exeter Academy; address, North Attleboro.

John C. Phelps, farmer, Olathe, Kan.

William Alfred Pierce, farmer, Maple Hill, Waubunsee Co., Kan.

Martin Shaw Pixley, mechanic, Greenfield.

John Cheney Platt, treasurer, Tiffany Glass Co., 333 Fourth Avenue, New York City.

William Davenport Platt, firm of Platt & Co., packers of canned goods, 307 West Pratt Street, Baltimore, Md.

Harry Heyward Player, stock raiser; address, care Charles P. Kellogg, Chicago, Ill.

Enguerrando Plaza, planter, Valparaiso, Chile, South America.

Royal Luther Porter; address unknown.

Henry Watross Post, M.D. (Univ. of Vt.) 1876, physician, Marcellus, N. Y.

Edward George Preston, engineer, 52 North Fulton Street, Auburn, N. Y.

George Herbert Putnam, electrician, 395 Western Avenue, Lynn.

Henry Anderson Putnam, farmer, Adams Street, Worcester.

Austin Abiel Rankin, dealer in Chicago dressed beef, Blackstone.

*Merton Jay Redding died 25th August, 1882, at Amherst (killed by explosion of gun), aged 17 years.

*Fremont Sumner Reed died 4th July, 1879, at South Weymouth, of phthisis, aged 23 years.

William Herbert Rhodes; address unknown.

Benjamin Parker Richardson, commission merchant, 11 Central Street, Boston.

George Prescott Robinson, book-keeper, Conn. River R. R. Co., Northampton.

John Albert Robinson, machinist, Hyde Park.

Howard Perry Rogers, no business, Allston.

Mulford Thacher Rogers, dealer in books, Harris, Rogers & Co., 36 Bromfield Street, Boston.

Newton Augustus Rose, clerk, A. B. Lawrence & Co., Fitchburg.

Caleb Lamb Rotch, clergyman (Bost. Univ. Theol. School, 1879), Stoughton.

Clarence Warner Rowland; address unknown.

*Charles Franklin Sanderson died 13th September, 1870, at Petersham, of meningitis, aged 21 years.

Robert Wilson Sanderson, grocer, 197 Dwight Street, Holyoke.

Frank Hyde Sanger, manufacturer of doors, sashes, etc., Watertown.

Herbert Claflin Sanger, business, Palmer.

Hermann Charles Sattler, cattle raiser, Pierce, Nebraska.

John Lincoln Selden, farmer, North Amherst.

Edward Bailey Sexton; address unknown.

John Joseph Shaughnessy, student, Harvard Law School; address, Stow.

Charles Jacob Shaw, buyer of ladies cloaks and suits, E. L. Shaw & Co., 68 South Street, Boston.

Denison Rogers Slade, house decorator, Chestnut Hill.

William Slattery, lawyer (admitted to the Massachusetts bar, in Hampshire Co., 1872), Holyoke.

Benjamin Salter Smith, clerk, actuarial department, N. Y. Mutual Life Insurance Co.; address, Orange, N. J.

*Frank Leland Smith died 16th February, 1876, at Springfield, N. Y., of typhoid fever, aged 23 years.

Hermann Kellogg Smith, farmer, Hadley.

James Metcalf Smith, steam heating business, Mechanic's Exchange, Weybasset Street, Providence, R. I.

John Leland Smith, farmer, Barre.
Joseph Boynton Smith, carpenter, Newburyport.
Walter Storm Smith, chemist, Syracuse, N. Y.
William Edward Smith, clerk, Housatonic Railroad Co., Bridgeport, Conn.
William Henderson Smith, farmer, Amherst.
William Henry Smith, manufacturer, Stafford Springs, Conn.
William Owen Smith, lawyer (admitted to practice before Supreme Court of Hawaiian Islands, 1876), 401 California Street, San Francisco, Cal.
William Ratliffe Smith, plumber, Occidental Hotel, Omaha, Neb.
Willis Philip Smith, farmer, Mechanicville, N. Y.
Laban Snow, agent, Household Sewing Machine Co., Harwichport.
Alonzo Lewis Southwick, milkman, Millville.
Charles Heyward Southworth, treasurer, Hampshire Paper Company, South Hadley Falls.
George Edwin Spalding, student, Brown University; address, Billerica.
Charles Plumb Spaulding, advertising agent, 816 Fatherland Street, East Nashville, Tenn.
Frank Adams Spooner, agent, Marine Insurance, 53 Devonshire Street, Boston.
Richard Sprague Stearns, travelling abroad; address, care W. S. Stearns, 23 Court Street, Boston.
William Clark Stewart, travelling salesman for Daniel Scotten & Co., Detroit, Mich.; address, Stillwater, Minn.
Fremont Ernest Stone, teacher, Millers Falls.
George Edward Stone, student, Massachusetts Institute of Technology, Boston.
William Strain, superintendent for Woodruff, Miller & Co., Mount Carmel, Conn.
Walter West Swazey, D.D.S. (Phila. Dent. Coll.) 1873, dentist, Springfield.
Frank Munroe Swift, railway postal clerk, Provincetown.
George Albert Swift, locomotive engineer, Fitchburg Railroad; address, Fitchburg Railroad, Charlestown.
Henry Morgan Taylor, jobbing hat trade, 250 Devonshire Street, Boston.
Ralph Ives Taylor, dealer in clothing, Great Barrington.
George Hutchins Thomas, farmer, Lebanon, Conn.

John Louis Thomas; address unknown.

Louise Mellicent Thurston, teacher, 5 Bickford Street, Lynn.

Frank Augustus Towne, druggist, 52 Fulton Street, Brooklyn, N. Y.

Herbert Milton Townsley, stock and dairy farmer, DeKalb, N. Y.

Charles Osmer Tryon, farmer, South Glastonbury, Conn.

*Charles Edward Tucker died 27th August, 1880, at Dijon, France, from congestion of the lungs, aged 26 years.

Frederick Deming Tucker, student, Monson Academy; address, Monson.

Fred Herman Tucker, buyer of dry goods for Farley, Harvey & Co., Boston; address, Newtonville.

Wilson Morehouse Tucker, farmer, Monson.

Frank Gordon Urner, secretary, Urner Publishing Co., and editor *Price Current*, N. Y.; address, Elizabeth, N. J.

William Henry Vaill, farmer, Packardville.

Edwin Faxon Vose, M.D. (Bost. Univ.) 1876, physician, 417 Congress Street, Portland, Me.

George Dole Wadley, superintendent of construction of new railroads for Central R. R. and Banking Co., of Georgia; address, McCormick, South Carolina.

James B. Walker; address unknown.

William Edward Warner, M.D. (Med. Dept., Univ. of Wooster) 1881, physician, Ipswich, Edmunds Co., Dakota.

Alfred Allen Warriner, dairy farmer, Warren.

James Edwin Watkis; address unknown.

Frank Howard West, market gardener and dairy farmer, Mill Vale, Haverhill.

Charles Albert Wheeler, manager, Naturita Cattle and Land Co., Bedrock, Montrose Co., Colorado.

Henry Lewis Wheeler, civil engineer, Great Barrington.

*Victor Lamont Wheelock died 11th April, 1885, at Palmer, from railway accident, aged 20 years.

Joseph Sidney Whittemore, card maker, Leicester.

Daniel Willard, master mechanic of Minneapolis, Sault Ste. Marie and Atlantic Railway, Turtle Lake, Wis.

Henry Walter Williams, salesman, organs and pianos, 265 River Street, Troy, N. Y.

*John Wheelwright Wills died 30th May, 1880, at Denver, Colorado, from congestion of the lungs, aged 29 years.

Frederick Augustus Wilmarth, student, Harvard Medical School; address, Upton.

Alvin Robert Wilson, farmer, South Hadley.

* Edgar Russell Wing, D.V.S. (Amer. Vet. Coll.) 1880, died 17th October, 1880, at West Newton, from tetanus, aged 23 years.

Edgar Daniel Winslow, spinner, Otis Company's Mills, Ware.

Walter Madson Wolfe, journalist; address, Montclair, N. J.

Lewis N. Wood, dealer in hardware, coal and wood, L. N. Wood & Co., Hope, Steele Co., Dakota.

Wilbur Wood, dealer in hardware, coal and wood, L. N. Wood & Co., Hope, Steele Co., Dakota.

George Gouge Woodhull, farmer, Monroe, N. Y.

George Clark Woolson, superintendent of parks, New York City, and importer of bulbs, Passaic, N. J.

Augustus Hunt Wright; address unknown.

Tall Katuyoshi Wuyesugi, proctor, Imperial College of Agriculture, Tokio, Japan.

Tenetaro Yamao; address unknown.

Geamon Youchi, superintendent of engineering department, Yezo, Japan; address, Sapporo, Hokkaido, Japan.

Charles Elisha Young, M. D. (Univ. City of N. Y.) 1882, physician, 334 West 59th Street, New York City.

Frank Hunter Zabriskie, M. D. (Coll. of Phys. and Surg., N. Y.) 1883, physician, Greenfield.

Bruce Scott Zeller, Hagerstown, Md.

William Melville Zeller, farmer, Hueneme, Cal.

SUMMARY.

	Living.	Dead.	Total.
Bachelors of Science	229	8	237
Non-Graduates	372	34	406

DEGREES.

	Alumni.	Non-Grad.	Total.
M. D.	14	11	25
Ph. D.	2	1	3
Jur. D.		1	1
B. D.	1		1
LL. B.	7	1	8
D. D. S.	1	1	2
D. V. S.	5	1	6
B. A.	2		2
B. Sc. (Boston Univ.)	106		106
B. Sc. (elsewhere)	1	5	6
C. E.		1	1
E. M.		1	1
V. S.	1	1	2

OCCUPATIONS.

	Alumni.	Non-Grad.	Total.
Ordained Clergymen	4	1	5
Lawyers	9	7	16
Physicians	11	11	22
Dentists	1	1	2
Veterinary Surgeons	6	1	7
Teachers	15	10	25
Journalists	8	3	11
Engineers	16	9	25
Chemists	14	4	18
Architects	1		1
Agricultural Pursuits	70	105	175
Business Pursuits	66	155	221
Army	1	2	3
Navy		1	1
Miscellaneous	4	37	41
Unknown	3	25	28

College Honour Men.

FARNSWORTH RHETORICAL MEDALS.

Gold Medal.		*Silver Medal.*	
Peter Mirick Harwood,	'75	Lauren Kellogg Lee,	'75
Charles Washington McConnel,	'76	John Elgin Williams,	'76
Thomas Edwin Smith,	'76	John Elgin Williams,	'76
Joseph Wyman,	'77	Walter Mason Dickinson,	'77
Atherton Clark,	'77	David Henry Benson,	'77
Charles Francis Coburn,	'78	David Erastus Baker,	'78
David Erastus Baker,	'78	Horace Edward Stockbridge,	'78
Lockwood Myrick,	'78	Lockwood Myrick,	'78
Joseph Gardner Lincoln,	'79	Roscoe Wesley Swan,	'79
Edgar Russell Wing,	'80	Alvan Luther Fowler,	'80
William Gilbert Lee,	'80	Alvan Luther Fowler,	'80
Charles Rudolph,	'81	Charles Louis Flint, Jr.,	'81
Charles Louis Flint, Jr.,	'81	Joseph Lawrence Hills,	'81
George Dickinson Allen,	'82	John Emery Wilder,	'82
Samuel Chester Damon,	'82	John Emery Wilder,	'82
David Oliver Nourse,	'83	Homer Jay Wheeler,	'83
Charles Thompson Conger,	'83	Homer Jay Wheeler,	'83
George Cutler, Jr.,	'84	Elisha Adams Jones,	'84
Elisha Adams Jones,	'84	Walter Parker Mayo,	'84
Paul Cuff Phelps Brooks,	'85	Charles Plumb Spaulding,	'85
George Holcomb Barber,	'85	Charles Sheperd Phelps,	'85
Edgar Daniel Winslow,	'86	George Sawyer Stone,	'86
William Alfred Eaton,	'86	Alfred Bigelow Copeland,	'86
Edward William Barrett,	'87	Osgan Hagope Ateshian,	'87
Herbert Judson White,	'87	Osgan Hagope Ateshian,	'87
Warren Ayer,	'88	Francis Homer Foster,	'88

GRINNELL AGRICULTURAL PRIZES.

First Prize.		*Second Prize.*	
Edgar Howard Libby,	'74	Edward Phelps Chandler,	'74
Jabez William Clay,	'75	Andre Arnold Southwick,	'75
George Amos Parker,	'76	John Milton Sears,	'76
David Henry Benson,	'77	Atherton Clark,	'77
John Edwards Southmayd,	'77		

Charles Francis Coburn,	'78	Horace Edward Stockbridge,	'78
Samuel Bowdlear Green,	'79	George Parmenter Smith,	'79
Almon Humphrey Stone,	'80	William Gilbert Lee,	'80
Henry Harrison Wilcox,	'81	Austin Peters,	'81
Winthrop Ellsworth Stone,	'82	Charles Walter Floyd,	'82
David Oliver Nourse,	'83	Domingos Henrique Braune,	'83
Elisha Adams Jones,	'84	Charles Herms,	'84
Benoni Tekirian,	'85	Charles Sheperd Phelps,	'85

PEABODY ENTOMOLOGICAL PRIZE.

Edgar Howard Libby, '74

HILLS BOTANICAL PRIZES.

First Prize.		*Second Prize.*	
Edgar Howard Libby,	'74	Edward Eastman Woodman,	'74
Thomas Russell Callender,	'75	William Penn Brooks,	'75
Joseph Mather Hawley,	'76	George Hewins Mann,	'76
Atherton Clark,	'77.	John Edwards Southmayd,	'77
Willie Levi Boutwell,	'78	Horace Edward Stockbridge,	'78
Walter Alden Sherman,	'79	Richard Storrs Dickinson,	'79
Almon Humphrey Stone.	'80	William Colvard Parker,	'80
Winthrop Ellsworth Stone,	'82	Charles Sumner Plumb,	'82
Charles Henry Preston,	'83	Charles Walter Minott,	'83
Hezekiah Howell,	'85	Lewis Calvert Leary,	'85
	Third Prize.		
Lauren Kellogg Lee,	'75	George Lowell Parker,	'76

MILITARY PRIZES.

First Prize.		*Second Prize.*	
William Alexander Macleod,	'76		
David Henry Benson,	'77		
Charles Francis Coburn,	'78	David Erastus Baker,	'78
Charles Louis Flint, Jr.,	'81	Austin Peters,	'81
Winthrop Ellsworth Stone,	'82	William Austin Morse,	'82
Samuel Morey Holman,	'83	Joseph Bridgeo Lindsey,	'83
Charles Herms,	'84		
Joel Ernest Goldthwait,	'85	Isaac Newton Taylor, Jr.,	'85

FRESHMAN DRILL PRIZES.

First Prize.		*Second Prize.*	
Edward William Barrett,	'87	Frank Scripture Clarke,	'87
Edward Johnson Dole,	'88		

CLARK NATURAL HISTORY PRIZE.

Yataro Mishima, '88

NOTE.—The military prizes were instituted and first given by Lieut. C. A. L. Totten.

Experimental and Other Scientific Work

CONDUCTED AT THE COLLEGE.

On the use and effect of common salt on grain and root crops. 1869. *Goessmann.*

The construction and repair of highways. 1869. *Miller.*

The establishment of true meridian lines as the basis of all surveys. 1870. *Miller.*

Report on the management of stock. 1871. *Dillon.*

Stassfurt-salines as a potash resource in agriculture. 1871–72. *Goessmann.*

The growing of sugar-beets, the manufacture of sugar from them, and trial of their value for cattle food. 1871–76. *Goessmann.*

Report on sugar-beets raised upon the college farm. 1872. *Goessmann.*

Fertilization of farm lands with reference to commercial fertilizers. 1872–73. *Goessmann.*

The circulation of sap in plants and their expansive power during growth. 1873. *Clark.*

Practical trials of new implements and farm machinery. 1873. *Dillon.*

The sources of supply and the quantity and quality of our manurial agents. 1873. *Goessmann.*

Investigations of the quality and composition of commercial fertilizers offered for sale, and the protection of the community from fraud by legal control and inspection. 1873-86. *Goessmann.*

Observations on the phenomena of plant life. 1874. *Clark.*

Experiments with compound commercial fertilizers to test their comparative agricultural value and their value as compared with single elements. 1874. *Stockbridge.*

NOTE.—Most of the experiments formerly conducted at the college are now carried on by the state agricultural experiment station.

Experiments to determine what elements will make practically a complete manure on our average soils. 1874. *Stockbridge.*

Laboratory and physical examinations of the South Carolina phosphates; trial of their agricultural value in the raw state and after treatment with acids. 1874. *Goessmann.*

Examinations of varieties of sugar-beets raised throughout the State of New York, Lower Canada, and the Connecticut River Valley. 1874. *Goessmann.*

The chemical and physical condition of the salt marshes of the state, and the devising of methods by which they can be made available for agricultural purposes. 1874-77. *Goessmann.*

To determine, in feeding substances, the proportions of different elements of nutrition required to save needless expense, and to produce the most certain results. 1874–75. *Stockbridge.*

Experiments on the continuous growth of crops on the same soil with chemical fertilizers alone. 1874–75. *Stockbridge.*

On the dentition of domestic animals. 1875. *Cressy.*

Experiments with different varieties of potatoes. 1875. *Maynard.*

Investigation of dairy products—oleomargarine, Jersey, and skim-milk cheese. 1876. *Goessmann.*

Examinations of animal secretions; variety of urinary calculi, etc. 1876. *Goessmann.*

Investigations on the effect of girdling fruit-trees and plants to hasten the time of ripening and to improve the quality of the fruits. 1876. *Goessmann* and *Maynard.*

Experiments with fertilizers upon sugar cane carried on in Louisiana. 1876–78. *Goessmann.*

Examinations of various vegetables and fruits. 1876–86. *Goessmann.*

Examinations and trials to test the comparative value of different methods of setting and treating milk in the butter-dairy. 1876–77. *Southwick.*

Notes on compensating-powder; being a brief consideration of a new mechanico-chemical explosive, for heavy artillery purposes. 1877. *Totten.*

The comparative study of milk of different breeds of cows under the same treatment. 1877. *Goessmann.*

Contribution to the chemistry of American wild and cultivated varieties of grape vines. 1878. *Goessmann.*

Investigations on temperature of soil and air, and on deposition of dew on the soil and plant. 1878. *Stockbridge.*

Investigations in relation to the evaporation and percolation of water from the soil. 1878. *Stockbridge.*

The tilling of soils of different characteristics as affecting the loss of water by evaporation. 1878. *Stockbridge.*

Investigations in relation to the comparative temperature of the soil and air by day and by night. 1878. *Stockbridge.*

Investigations concerning the saccharine qualities of several varieties of corn and melons. 1879. *Goessmann.*

The growing of early amber cane, and the manufacture of sugar from its juice. 1879. *Goessmann.*

Investigations of the comparative nutritive and feeding value of Northern, Southern, and Western varieties of Indian corn. 1879. *Goessmann.*

The determination of the elements of plant nutrition lost from the soil by leaching, and of those it retains. 1879. *Stockbridge* and *Goessmann.*

Report on lysimetre. 1879. *Stockbridge.*

The effect of chemical salts on the carbo-hydrate contents of plants and the quality of the fruits. 1880. *Goessmann.*

Experiments regarding diseased peach trees (yellows, etc.). 1880-81. *Goessmann.*

Experiments regarding the influence of special manures on fruits, etc. 1881. *Goessmann.*

The system of preserving green food in silos. 1881. *Goessmann.*

Investigations in relation to unconscious bias in walking. 1884. *Miles.*

Observations in reference to bilateral asymmetry of form and function. 1884. *Tuckerman.*

SKETCHES

—OF—

Deceased Officers of the College.

Henry Flagg French, M. A., the first president of the Mass. Agricultural College, was the son of David and Sarah Wingate (Flagg) French, and was born 14th August, 1813, at Chester, N. H. His father was Attorney General of New Hampshire. He prepared for Dartmouth College at the Academies at Derry and Pembroke, N. H., and Hingham, Mass. Studied law at Harvard University, and was admitted to the New Hampshire bar, in Rockingham County, 14th August, 1834. He removed from Chester to Portsmouth in the autumn of 1841, and from thence to Exeter in 1842. Here he remained until 1860 when he settled in Cambridge, Mass., and resumed the practice of law in Boston. He lived one year, 1866–67, at Waltham and then removed to Concord, Mass. He was admitted to practice in the Supreme Court of the United States in 1869. Previous to going to Washington he was a law partner of Hon. George S. Boutwell. He was postmaster of Chester, N. H., 1840; was County Solicitor and Bank Commissioner of Rockingham for several years; Judge of the Court of Common Pleas of N. H., 1855–59; Assistant District Attorney, Suffolk County, Mass., 1862–64; President of the Mass. Agricultural College, 1864–66; Assistant Secretary of the Treasury of the United States, Washington, D. C., 1876–85. Travelled in Europe, for the purpose of studying drainage, in 1857, and his work on that subject has had much to do with the introduction of tile drainage to this country.

He was associate editor of the *New England Farmer*, wrote much for the *Massachusetts Ploughman*, the *Country Gentleman*,

and for other agricultural journals. He was also a contributor to the reports of the Agricultural Department at Washington. Was active in the formation of the Rockingham County Agricultural Society, and was for several years its president. Was a vice-president of the United States Agricultural Society. Honorary member of the Phi Beta Kappa Society of Harvard College, 1861. The honorary degree of M. A. was conferred on him by Dartmouth College in 1852.

Author of "Farm Drainage," 1859; republished by the Orange Judd Co., New York, 1884. Contributed the following papers to the reports of the U. S. Department of Agriculture:—"Drainage," 1856; "English Plows and Plowing," 1859; "English Husbandry," 1860; "Agricultural Colleges," 1865; "Country Roads," 1866. Among his other contributions may be mentioned "On Fruit Growing," *Trans. New Hamp. Agr'l Soc.*, 1850–2; "Farming Present and Prospective" *Rept. New Hamp. Board of Agric.*, 1873; "Drainage for Health," *Annual Report State Board of Health of Mass.*, 1873; "Count Pulaski's Strange Power," *Atlantic Monthly*, June, 1878.

He died from an affection of the heart, at Concord, Mass., 29th November, 1885. He married first, 9th October, 1838, at Chester, N. H., Anne, daughter of Chief Justice William M. Richardson of New Hampshire, who died 29th August, 1856, at Exeter, N. H.; second, 29th September, 1859, at Keene, N. H., Pamela Mellen, daughter of John Prentiss, Esq., editor of *Keene Sentinel*. He leaves four children, all by his first wife.

Mr. French was all his life interested in agriculture, and was a successful practical farmer. He did much to improve the appearance of the towns of Chester and Exeter, N. H., planting many of the trees which now beautify and adorn their streets. The Exeter public library was founded mainly through his efforts, and he was prominent in the management of the public schools and in other town matters. In anti-slavery days he made many speeches in support of President Lincoln's emancipation policy. During his nine years connection with the U. S. Treasury he often acted as secretary and sat as a member of the cabinet.

Paul Ansel Chadbourne, M. A., M.D., D.D., LL.D., was born 21st October, 1823, at North Berwick, Me. At the age of seventeen he apprenticed himself to a druggist at Great Falls, N.

H., for two years. Entered Phillips Academy, Exeter, N. H., and during two years of preparatory study, supported himself by copying law papers. Entered the sophomore class at Williams College in 1845, and was graduated, valedictorian, in 1848. Taught school at Freehold, N. J., one year; principal of the High School at Great Falls, N. H., in 1850, and subsequently was for two years principal of East Windsor Academy, while pursuing studies in the Theological Institute of Connecticut. Professor of Chemistry, Botany, and Natural History, Williams College, 1853-67; Professor of Chemistry and Natural History, Bowdoin College, Me., 1859–66; Professor of Chemistry and Natural History, Berkshire Medical College, three years, and lecturer in Chemistry, Mt. Holyoke Seminary, thirteen years. President of the Mass. Agricultural College, 1866-67; President and Professor of Metaphysics, University of Wisconsin, Madison, Wis., 1867–70, and lecturer in Chemistry and Natural History, Western Reserve College, Hudson, O. President of Williams College, 1872–81, and of the Mass. Agricultural College, 1882-83.

He conducted a scientific expedition to Newfoundland and Labrador in 1855; to Florida in 1857, and to Greenland in 1861. He visited Sweden, Norway, Denmark, Greenland and Iceland for the purpose of studying geysers and volcanoes in 1859. Member of the Mass. Senate, 1865-66; visited Utah and the mining regions of the Rocky Mountains, in 1870–72; was presidential elector-at-large in 1876, and chairman of Republican State Convention in 1880; engaged in the editorial supervision of "The Wealth of the United States" and "Public Service of New York," 1881–82. A portion of this time he was employed as mining geologist in North Carolina and Dakota. He was a director in several mills at Williamstown, in the Berkshire Life Insurance Company, and in the North Adams Savings Bank.

He was a member of the Royal Society of Northern Antiquaries, Copenhagen, of the Mass. Historical Society, of the New England Historic Genealogical Society, etc., etc. Was appointed a member of the State Board of Agriculture by Gov. Andrew, and after his return from the west, he was re-appointed in place of Prof. Agassiz, deceased. Overseer of the Mass. Agricultural College, 1874–78, and a trustee of Wellesley College.

Delivered a course of lectures upon "The Relations of Natural History" before the Smithsonian Institution, Washington, 1859,

and upon "Natural Theology" before the Lowell Institute, Boston, 1866. The latter were published in 1867. Author of "Instinct in Animals and Man," 1872, and of more than fifty pamphlets, essays, etc., on scientific subjects. The following honorary degrees were conferred upon him:—M.D., Berkshire Medical College, 1859; LL.D., Williams, 1868; D.D., Amherst, 1872. Died from an affection of the kidney, at New York, 23d February, 1883. He married, 9th October, 1850, at Exeter, N. H., Elizabeth Sawyer Page. Two of their three children are living.

WILLIAM SMITH CLARK, M. A., Ph.D., LL.D., son of Dr. Atherton and Harriet (Smith) Clark, was born 31st July, 1826, at Ashfield, Mass. He prepared for college at Williston Seminary, Easthampton, and entered Amherst College in 1844, graduating in 1848. He taught the natural sciences at Williston Seminary from 1848–50 and then went abroad and studied chemistry and botany at Goettingen, Ger., 1850–52, taking the degree of Ph.D. at Goettingen, 1852. Was Professor of Chemistry, Botany, and Zoölogy at Amherst College, 1852–58, and of Chemistry, 1858–67; President and Professor of Botany and Horticulture, Mass. Agricultural College, 1867–79; organizer and first president of the Imperial College of Agriculture, Sapporo, Japan, 1876–77. In 1879–80 he was made president of a floating college, which enterprise, owing to the death of its originator, Mr. Woodruff, was abandoned. Subsequently he turned his attention to mining operations.

When the war broke out in 1861, Mr. Clark was commissioned Major, 21st Mass. Vols., becoming Lt. Col. in 1862, and Colonel the same year. He took part in the battles of Roanoke Island, Newburn, Camden, second battle of Bull Run, Chantilly, the Antietam and Fredericksburg. It was at the battle of Chantilly, that losing his way and becoming separated from the regiment, accompanied by only a handful of men, he was surrounded by the rebels and ordered to surrender. Preferring to run every risk rather than encounter the horrors of Andersonville or Libby, a desperate effort was made to escape, but all were shot down except himself. Bullets whistled through his cap and clothing, but unhurt, he reached the cover of the woods and lay concealed within the enemy's lines for three days, suffering from

hunger and exposure, until finally he reached the union forces in safety and was welcomed as one returned from the dead, for he had been reported among the fallen.

He was a member at large of the Mass. State Board of Agriculture, 1859–61, and member *ex-officio*, 1867–79; presidential elector and secretary of the electoral college, 1864; representative to the Legislature, 1864 (receiving every vote in the district but seven), 1865, and 1867; president of the Hampshire Agricultural Society, 1860, 1861, and 1870; trustee of Williston Seminary, Easthampton, 1863–76, and president of the board, 1874–76; was also a trustee and vice-president of trustees of Amherst Academy several years, and first president of the Amherst Water Company. Was one of a commission of three appointed in 1863 by Gov. Andrew to consider the expediency of establishing a State Military Academy. Received the degree of LL.D. from Amherst College in 1874. Fellow of the American Academy of Arts and Sciences; member of the Mass. Horticultural, and New England Agricultural Societies; honorary member of the Mass. Society for Promoting Agriculture, and resident member of the New England Historic Genealogical Society.

Author of the following papers in Liebig's *Annalen*:—"Ueber Chlomagnesium-Ammoniak," 1851; "Analyse des Steinmarks aus dem Sächsischen Topasfels," 1851; "Analysen von Meteoreisen," 1852. Contributed the following articles to the annual reports of the Mass. State Board of Agriculture:—"Report on Horses," 1859–60; "Professional Education the Present Want of Agriculture"; "The Work and the Wants of the Agricultural College," 1868; "The Cultivation of Cereals," 1868; "Nature's Modes of Distributing Plants," 1870; "The Relations of Botany to Agriculture," 1872; "The Circulation of Sap in Plants," 1873; "Observations on the Phenomena of Plant Life," 1874; "Agriculture of Japan," 1878. Translated Prof. Scheerer's "Blowpipe Manuel," 1869. Died from an affection of the heart, at Amherst, 9th March, 1886. He married, 25th May, 1853, Harrietta Keopuolani Richards, daughter of Rev. William Richards, and adopted daughter of Samuel Williston of Easthampton. Eight of their eleven children are living, three sons having died in infancy.

Samuel Fisher Miller, B. A., C. E., son of Rev. Moses and Bethiah (Ware) Miller, was born 5th October, 1822, at Heath. He prepared for college with his father. Entered Amherst Col-

lege in 1844, and was graduated in 1848. After leaving college he devoted himself to civil engineering, and served his apprenticeship upon the Hoosac Tunnel and Troy & Boston Railroad. Removing to the west, he became engaged as engineer in the survey and construction of various roads in Michigan, Wisconsin, and Illinois. Was Professor of Mathematics in the Chicago High School, 1867–68, and of Mathematics and Civil Engineering in the Mass. Agricultural College, 1868–70. Was appointed by the governor, surveyor of Meridian Lines, and established in different parts of Massachusetts, the true north and south line, as the basis of all surveys. Surveyed the line of the Mass. Central Railroad from Belchertown to Northampton; assisted in locating and grading numerous walks and roads in Amherst; prepared a plan for the introduction of water from Pelham, and wrote a prize essay on the highways of the State and the best method of constructing and repairing them.

Died from a cancerous affection of the bowels, at Amherst, 28th October, 1870. Married first, 18th June, 1851, Charlotte, daughter of William Howe, of Brookfield, who died 25th November, 1863; second, 27th August, 1867, Alma F., daughter of Dr. Joseph Emerson, of Amherst. Six children.

Henry James Clark, B.A., B.Sc., the first professor of Natural History at the Mass. Agricultural College, was the son of Rev. Henry Porter and Abigail Jackson (Orton) Clark, and was born 22d June, 1826, at Easton, Mass. His father removed to Brooklyn, N. Y., where he lived many years and where his son received much of his early training. He received his collegiate education at the University of the City of New York, graduating B. A., in 1848. Immediately after leaving college he taught for some time at White Plains, N. Y. He commenced the study of botany under Dr. Asa Gray, at Cambridge, in 1850. While a student at the Botanic Garden, he taught in the academy at Westfield, Mass., for a single term, apparently achieving much success as a teacher, and forming life-long friendships. Soon after this he became a student of Professor Agassiz, and for several years was his private assistant. Professor Agassiz, early in 1857, spoke of him enthusiastically, remarking to a friend, "Clark has become the most accurate observer in the country." He graduated from the Lawrence Scientific School, Cambridge, in 1854, taking the de-

gree of B.Sc. Between 1856 and 1863 he was associated with Agassiz in the preparation of the anatomical and embryological portions of the "Contribution to the Natural History of the United States." In June, 1860 he was appointed adjunct Professor of Zoölogy in Harvard University, which he held until the expiration of his term of office in 1865. He gave a course of lectures on histology at the Museum of Comparative Zoölogy, Cambridge, in 1861, and delivered a course of twelve lectures on "Mind in Nature; or the Origin of Life, and the Mode of Development of Animals," at the Lowell Institute, Boston, in 1864. He was appointed Professor of Botany, Zoölogy, and Geology, in the Agricultural College of Pennsylvania, in December, 1866. Here he remained until April, 1869, when he was appointed to the chair of Natural History of the University of Kentucky. He lived at Lexington, Kentucky, until February, 1872, when he was elected Professor of Comparative Anatomy and Veterinary Science in the Massachusetts Agricultural College. Busy with his work at Amherst, and struggling with the fatal disease, tabes mesenterica, he wasted away, and died on the 1st July, 1873, in the forty-eighth year of his age. He was a member of most of the learned societies in this country, while his works have been recognized and referred to by the leading zoölogists of Europe.

In 1856 he was elected a fellow of the American Academy of Arts and Sciences, and in 1870, an associate fellow of the same. In 1857 he became a member of the Boston Society of Natural History. In 1865 he was chosen a corresponding member of the American Microscopical Society; in 1866, corresponding member of the Essex Institute, and in 1868, correspondent of the Philadelphia Academy of Natural Sciences. In 1872 he was elected a member of the National Academy of Sciences, which, at that time, was limited in membership to fifty of the foremost scientists of the country.

He married, 29th September, 1854, at Boston, Mary Young Holbrook. Seven of their eight children are living, one daughter having died in infancy.

Mr. Clarke's first love for science seems to have grown from his fondness for flowers. After he became a student of zoölogy his love for botany remained undiminished. "The influence of his knowledge of botany on his zoölogical studies was marked. It prepared him for his studies on spontaneous generation, on the

theory of the cell, on the structure of the protozoa and the nature of protoplasm. In the use of the microscope he showed not only mechanical skill and ingenuity, but a patience, caution, and experience in difficult points in histology, which undoubtedly placed him at the head of observers in this country, and rendered him, perhaps, inferior to few in Europe. He used the highest powers with a skill that few if any living observers have surpassed. His work entitled 'Mind in Nature' is, in all respects, for its usually sound and clear thinking, its breadth of view, and the amount of original work it contains, perhaps the most remarkable general zoölogical work as yet produced in this country. If the author had left us no other work, this alone would testify to years of the severest labor and independent thought. It anticipated certain points in histology, and the structure of the Protozoa and sponges especially, which have made the succeeding labors of some European observers notable." Dr. A. S. Packard, Jr., in a Memoir read before the National Academy of Sciences, in 1874, speaks of Mr. Clark as follows: "Within the year past we have lost a member who may be said, without disparagement to others laboring in the same field, to have been the foremost American histologist and microscopist, and one of our most skilful and accomplished biologists; one the rule of whose scientific life was a practical application of experimental philosophy. A true naturalist, he was an enthusiast, and yet in his methods of study severe, exact, and in all respects scholarly."

A list of the scientific writings of Henry James Clark is here subjoined.

The Peculiar Growth of Rings in the Trunk of Rhus toxicodendron. (*Proc. Amer. Acad.*, Vol. III., 1856, p. 335.)

The Excentricity of the Pith in Ampelopsis quinquefolia and Celastrus scandens. (unpublished.)

Contributions to the Natural History of the United States. 1857–62. (*Conjointly with Prof. Louis Agassiz.*)

Recapitulation of the "Embryology of the Turtle," as given in Professor Agassiz's "Contributions to the Natural History of the United States." (*Am. Jour. of Science*, II. Vol. XXV., 1858, pp. 342–357.)

Some remarks upon the use of the microscope, as recently improved, in the investigation of the minute organization of living bodies. (*Proc. Amer. Acad.*, Vol. IV., 1859, pp. 136–

149; *Am. Jour. of Science*, II. Vol. XXVIII., 1859, pp. 37–48.)

On the Identity of the Vibrios and the muscular fibrillæ. (*Proc. Amer. Acad.*, Vol. IV., 1859, pp. 199–201; *expanded and published under the title*, On the Origin of Vibrio, *Am. Jour. of Science*, II. Vol. XXVIII., 1859, pp. 107-109.)

On Apparent Equivocal Generation. (*Proc. Amer. Acad.*, Vol. IV., 1859, pp. 207, 208; *Am. Jour. of Science*, II. Vol. XXVIII., 1859, pp. 154, 155.)

Lucernaria the Coenotype of Acalephæ. (*Proc. Boston Soc. Nat. Hist.*, Vol. IX., 1862, pp. 47–54; *Am. Jour. of Science*, II. Vol. XXXV., 1863, pp. 346–355; *Ann. Mag. Nat. Hist.*, London, III. Vol. XII., 1863, pp. 19–30.)

Prodromus of the History, Structure, and Physiology of the order Lucernariae. (*Jour. Boston Soc. Nat. Hist.*, Vol. VII., 1863, pp. 531–567.)

Actinophrys. (*Proc. Boston Soc. Nat. Hist.*, Vol. IX., 1863, pp. 282–284; *republished under the title*, On the cellular structure of Actinophrys Eichornii, *Am. Jour. of Science*, II. Vol. XXXVIII., 1864, pp. 331, 332; *Ann. Mag. Nat. Hist.*, III. Vol. XIV., 1864, pp. 394, 395.)

Note on eggs of Tubularia. (*Proc. Boston Soc. Nat. Hist.*, Vol. IX., 1863, p. 342; *expanded and published under the title*, Tubularia Not Parthenogenous, *Am. Jour. of Science*, II. Vol. XXXVII., 1864, pp. 61–66.)

Discovery of female Rhizogeton fusiformis, *Ag.* (*Proc. Boston Soc. Nat. Hist.*, Vol. IX., 1863, p. 342.)

A Claim for Scientific Property. Cambridge, 1863, pp. 3.

Note on Tolles microscopic objectives. (*Ann. Mag. Nat. Hist.*, III. Vol. XIV., 1864, p. 395.)

Proofs of the Animal Nature of the Cilio-flagellate Infusoria, as based upon Investigations of the Structure and Physiology of one of the Peridinia (Peridinium cypripedium, *n. sp.*). (*Proc. Amer. Acad.*, Vol VI., 1865, pp. 393–402; *Ann. Mag. Nat. Hist.*, III. Vol. XVI., 1865, pp. 270–279.)

The Anatomy and Physiology of the Vorticellidan Parasite (Trichodina pediculus, *Ehr.*) of Hydra. (*Proc. Boston Soc. Nat. Hist.*, Vol. X., 1865, p. 223; *Memoirs Boston Soc. Nat. Hist.*, Vol. I., 1865, pp. 114–130; *Ann. Mag. Nat. Hist.*, III. Vol. XVII., 1866, pp. 401–425.)

On the Vestibular "bristle" or lash of one of the Vorticellidae. (*Proc. Boston Soc. Nat. Hist.*, Vol. X., 1865, pp. 231, 232.)

Mind in Nature; or the Origin of Life, and the Mode of Development of Animals. New York, 1865, pp. 331.

On the affinities of Peridinium cypripedium, *Jas-Clk.*, and Urocentrum turbo, *Ehr.* (*Ann. Mag. Nat. Hist.*, III. Vol. XVIII., 1866, pp. 2-6.)

On the Structure and Habits of Anthophysa Mülleri, *Bory*, one of the sedentary monadiform Protozoa. (*Am. Jour. of Science*, II. Vol. XLII., 1866, pp. 223–230; *Ann. Mag. Nat. Hist.*, III. Vol. XVIII., 1866, pp. 429–436.)

Conclusive proofs of the animality of the ciliate Sponges, and of their affinities with the Infusoria Flagellata. (*Am. Jour. of Science*, II. Vol. XLII., 1866, pp. 320–324; *Ann. Mag. Nat. Hist.*, III. Vol. XIX., 1867, pp. 13–18.)

On the Spongiae Ciliatae as Infusoria Flagellata; or, Observations on the Structure, Animality, and Relationship of Leucosolenia botryoides, *Bowerbank*. (*Proc. Boston Soc. Nat. Hist.*, Vol. XI., 1866, pp. 16, 17; *Memoirs Boston Soc. Nat. Hist.*, Vol. I., 1866, pp. 305–340; *Ann. Mag. Nat. Hist.*, IV. Vol. I., 1868, pp. 133–142, 188–215, 250–264.)

Polarity and Polycephalism, an essay on Individuality. (*Am. Jour. of Science*, II. Vol. XLIX., 1870, pp. 69–75.)

Note on the Infusoria Flagellata and the Spongiae Ciliatae. (*Am. Jour. of Science*, III. Vol. I., 1871, pp. 113, 114; *Ann. Mag. Nat. Hist.*, IV. Vol. VII., 1871, pp. 247, 248.)

The American Spongilla, a Craspedote, Flagellate Infusorian. (*Am. Jour. of Science*, III. Vol. II., 1871, pp. 426–436; *Ann. Mag. Nat. Hist.*, IV. Vol. IX., 1872, pp. 71–81; *Monthly Microsc. Jour.*, London, Vol. VII., 1872, pp. 104–114.)

Report on the Veterinary Department, Mass. Agricultural College. (*Tenth Annual Report*, Jan., 1873, pp. 26–29.)

Lucernariae and their Allies. A memoir on the anatomy and physiology of Haliclystus auricula, and other Lucernarians, with a discussion of their relations to other Acalephae; to Beroids, and Polypi. (*Smithsonian Contributions to Knowledge*, 242, 1878, pp. 130.)

CHRONOLOGY.

The first effort to establish in Massachusetts an institution where scientific and practical agriculture should be taught, was made in 1849, by Hon. Marshall P. Wilder, in an address delivered in September of that year, before the Norfolk Agricultural Society upon the subject of agricultural education. The suggestions contained in this address were received with so much favor, that the following year (1850) a bill was prepared providing for the establishment of an agricultural college and an experimental farm. This bill passed the Senate without a dissenting vote but was rejected in the House. The next step was the creation of a Board of Commissioners, whose duty should be to report, at the next session of the legislature, upon the expediency of establishing agricultural schools or colleges. This commission which consisted of Marshall P. Wilder, Edward Hitchcock and others, made their report to the legislature in 1851. This report embraced the investigations of Dr. Hitchcock in regard to the agricultural schools and colleges of Europe, and contained an account of more than 350 of these institutions. Nothing further was done towards organizing a college of agriculture till 1856. In that year several of the gentlemen who had been most active in the project for planting a college, now associated together for the establishment of a school, and obtained an act of incorporation under the title of the Massachusetts School of Agriculture. Of the persons named in this Act, the name of Marshall P. Wilder heads the list. In 1860, its charter was transferred to several enterprising citizens of Springfield, who determined to raise by subscription $75,000 for the opening of the school in that city, relying upon the legislature for a further endowment. This project would probably have succeeded, had not the call to arms absorbed public attention. In 1858, Hon. Justin S. Morrill, representative from Ver-

mont, submitted a bill to Congress, donating a portion of the public lands for the endowment of a college in each state, to teach such branches of learning as are related to agriculture and the mechanic arts. This bill, after prolonged discussions for two sessions, passed both houses of Congress, but was vetoed by President James Buchanan. The measure was finally enacted July 2, 1862, being approved by President Abraham Lincoln.

1863, April 18.	Acceptance of congressional grant by the Legislature of Massachusetts.
1863, April 27.	Act dividing income resulting from sale of public lands and giving one-third to Mass. Inst. of Technology.
1863, April 29.	Act to incorporate the trustees of the Massachusetts Agricultural College.
1863, Nov. 18.	Corporation organized with Gov. Andrew, president; A. W. Dodge, vice-president; and C. L. Flint, secretary.
1864, Jan. 6.	First annual report of the college made to the Legislature, signed by G. Marston, W. S. Southworth, and C. L. Flint.
1864, May 11.	Act changing name of corporation to "The Massachusetts Agricultural College," allowing sale of scrip, and granting $10,000 to defray necessary expenses.
1864, May 25.	College located at Amherst by trustees.
1864, June.	Gov. Andrew and council, with executive committee of trustees, namely, Messrs. French, Colt, and Davis visit Amherst to examine location.
1864, Sept. 30.	Governor and council approve location.
1864, Nov. 29.	Hon. Henry F. French elected president.
1865, May 5.	Act authorizing the town of Amherst to raise $50,000.
1865, May 15.	Act granting $10,000 to aid in the establishment of the college.
1866, May 26.	Board of Agriculture constituted overseers of the college; authorized to locate State agricultural cabinet and library, and to hold its meetings, at said college; and president of college constituted a member *ex-officio* of said board.

1866, Sept. 29.	Resignation of President French.
1866, Nov. 7.	Hon. Paul A. Chadbourne elected president.
1866.	Hon. Levi Stockbridge elected farm superintendent and instructor in agriculture.
1866.	Dr. Nathan Durfee and Leonard M. and Henry F. Hills give $20,000 for the establishment and maintenance of plant house and botanic garden.
1867, June 1.	Resignation of President Chadbourne on account of ill health.
1867, Aug. 7.	Col. William S. Clark elected president; Ebenezer S. Snell, professor of mathematics, and Henry H. Goodell, professor of modern languages.
1867, Oct. 2.	First class admitted to the college, numbering forty-seven members before the close of the term.
1867.	South dormitory, laboratory and south boarding house completed; seventy-three acres of land added to the college farm, and granite quarry in Pelham purchased.
1867.	Washington Irving Literary society founded.
1867.	Gift by Hon. Marshall P. Wilder of 1300 specimens of choice plants to the Durfee plant house.
1868, March 11.	Resolve by the Legislature, authorizing the governor to issue arms and equipments to the college.
1868, May 1.	Resolve allowing $50,000 for the erection of buildings, &c.
1868, May.	New England Agricultural Society holds a trial of plows on the college farm.
1868, Dec. 8.	Country meeting of State Board of Agriculture held at the college.
1868.	North dormitory, north boarding house, botanic museum, and Durfee plant house completed.
1868.	Charles A. Goessmann elected professor of chemistry.
1868.	Samuel F. Miller elected professor of mathematics, physics, and civil engineering.

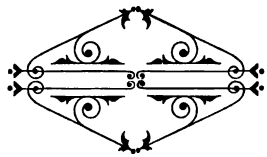
1868.	College Christian Union founded.
1869, April 25.	Resolve allowing $50,000 for the erection of buildings, &c.
1869, June 20.	The second national exhibition of agricultural machines, instituted by the New Eng. Agr'l Soc., held at the college for four days.
1869.	Henry E. Alvord, U. S. A., detailed for duty at the college, as professor of military science and tactics.
1869.	College hall, and farm house and barns built.
1869.	Gift of $2,000 by the Hon. William Knowlton for the purchase of the herbarium collected by W. W. Denslow.
1869.	First *Index* published.
1870, June 18.	Resolve allowing $25,000 for the payment of debts.
1870, Oct. 28.	Death of Professor Miller.
1870.	Rev. Henry W. Parker elected professor of mental, moral and social science, and college preacher.
1871, May 26.	Act to amend an act incorporating the Massachusetts Agricultural College, authorizing the trustees to elect their own successors.
1871, May 26.	Resolve allowing $50,000 for payment of debts and for current expenses, and adding $141,535.35 to the perpetual fund of the college; also resolve ordering 10,000 extra copies of the college report to be printed.
1871, July 19.	Graduation of the first class, numbering twenty-seven.
1871, July 21.	Winning of the intercollegiate regatta by the Agricultural College crew (time 16 min. 46½ sec.)
1871.	Selim H. Peabody elected professor of mathematics, physics, and civil engineering.

1871.	Henry J. Clark elected professor of comparative anatomy and veterinary science.
1871.	Gift by Miss Mary Robinson of $2,000 for the endowment of a scholarship.
1872.	Levi Stockbridge elected full professor of agriculture.
1872.	Abner H. Merrill, U. S. A., detailed as professor of military science and tactics.
1873, July 1.	Death of Professor Clark.
1873.	Noah Cressy elected professor of veterinary science.
1873.	Farnsworth Rhetorical prizes given by Isaac D. Farnsworth, Esq.
1873.	Grinnell Agricultural prizes founded by Hon. William Claflin.
1873.	Peabody Entomological prize given by Professor Selim H. Peabody.
1873.	Hills Botanical prizes established.
1874, June 5.	Resolve allowing $18,000 in aid of the college.
1874.	Resignation of Professor Peabody.
1874.	Samuel T. Maynard elected gardener and assistant professor of horticulture.
1874.	William B. Graves elected professor of mathematics, physics, and civil engineering.
1874.	Organization of the "Associate Alumni of the Massachusetts Agricultural College."
1875.	Agreement on the part of the College to represent the agricultural department of Boston University.
1875.	Charles A. L. Totten, U. S. A., detailed as professor of military science and tactics.
1875.	Gift by Prof. Charles S. Sargent of trees, shrubs and herbaceous plants.
1876, April 26.	Death of Dr. Nathan Durfee, treasurer and benefactor of the college.
1876, April 28.	Resolve allowing $5,000 for current expenses.

1876, May 20.	President Clark starts for Japan to organize an agricultural college, leaving Professor Stockbridge in charge.
1876.	Resignation of Professor Cressy.
1876.	Military diploma, first issued by Lieut. Totten.
1876.	Military prize first given by Lieut. Totten.
1877, May 16.	Resolve, allowing $5,000 for current expenses, one-half for payment of manual labor by the students.
1877.	President Clark returns from Japan.
1877.	New green house built by Hon. William Knowlton.
1878.	One hundred and fifty free scholarships offered by the trustees.
1878.	Bequest of $1,000 by Whiting Street, Esq., for the establishment of a scholarship.
1878.	Gift of $1,000 by Professor Levi Stockbridge for experimental purposes.
1878.	Charles Morris, U. S. A., detailed for duty as professor of military science and tactics.
1879, April 24.	Act granting $32,000 to pay the indebtedness of the college, and making the trustees personally liable for any debt hereafter incurred, in excess of the income of the college.
1879, May 1.	Resignation of President Clark.
1879, June 12.	Owing to diminished income, trustees sell at public auction all the blooded stock belonging to the college, except the Ayrshire herd.
1879.	Charles L. Flint elected president.
1879.	Resignation of Professor Parker.
1879.	Samuel T. Maynard elected full professor of botany and horticulture.
1880, March 24.	Resignation of President Flint.
1880, April.	Levi Stockbridge elected president.
1881, Aug. 25.	Resignation of Professor Graves.

1881.	Charles L. Harrington appointed professor of mathematics, physics, and civil engineering.
1881.	Victor H. Bridgman, U. S. A., detailed for duty as professor of military science and tactics.
1882, Jan. 12.	Resignation of President Stockbridge, to take effect March 18.
1882, January.	Hon. Paul A. Chadbourne elected president.
1882, May 12.	Resolve allowing $9,000 for the erection of a drill hall, and for repairs.
1882, May 12.	Act establishing the Massachusetts State Agricultural Experiment Station.
1882.	Resignation of Professor Harrington.
1882.	Austin B. Bassett elected professor of mathematics, physics, and civil engineering.
1883, Jan. 5.	Durfee plant house destroyed by fire.
1883, Feb. 23.	Death of President Chadbourne.
1883, Feb. 27.	Professor Goodell acting president till September, 1883.
1883, June 2.	Resolve allowing $10,000 annually for four years, and establishing 80 free scholarships.
1883, July 5.	James C. Greenough elected president.
1883.	Manly Miles elected professor of agriculture.
1883.	Completion of drill hall.
1883.	Gift by Leander Wetherell, Esq., of Boston, of 1,410 bound volumes to the library.
1884, May 8.	Resolve allowing $36,000 for the erection of a chapel and library building, for the completion of president's house, and for repair of north college; and also limiting term of office of trustees.
1884.	Resignation of Professor Bassett.
1884.	Clarence D. Warner elected professor of mathematics, physics, and civil engineering.
1884.	Horace E. Stockbridge elected associate professor of chemistry.

1885, Feb. 4.	South dormitory destroyed by fire.
1885, June 11.	Resolve allowing $45,000 for rebuilding south dormitory, erecting a tower on the chapel building, and purchasing scientific apparatus.
1885, June 11.	Resolve allowing $6,000 for the erection of a laboratory for the Massachusetts Experiment Station.
1885, June 19.	Act making the annual report of the college, and the annual report of the experiment station, public documents.
1885, Nov. 29.	Death of ex-president French.
1885.	Resignation of Professor H. E. Stockbridge.
1885.	Charles Wellington elected associate professor of chemistry.
1885.	George E. Sage, U. S. A., detailed for duty as professor of military science and tactics.
1885.	President's house completed.
1886, March 9.	Death of ex-president Clark.
1886, April 16.	Resolve making perpetual the allowance of $10,000 annually, granted July 5, 1883.
1886.	Completion of south dormitory, chapel and library building, and laboratory of Massachusetts Experiment Station.
1886.	Henry James Clark Natural History prize given.
1886.	Resolve allowing $7,500 for repairs and needs of the college.
1886.	Gift by Hon. Marshall P. Wilder of several hundred volumes to the college library.



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ADDITIONS AND CORRECTIONS.

Page 57. Charles E. Lyman married 8th June, 1886, at Wallingford, Ct., Emma C. Hall.

P. 86, for Edward Dana Nash read Edwin Dana Nash.

P. 102, line 33, for manuel read manual.

P. 103, line 26, for his read the.

P. 105, line 1; read Protozoa.

P. 105, line 14; read Sponges.

GENERAL ACTS

OF THE

United States and Massachusetts,

RELATING TO THE

Agricultural College,

With Amendments and Additions Thereto.

1863-1886.

ALSO THE

BY-LAWS OF THE CORPORATION.

PREPARED UNDER THE DIRECTION OF

A COMMITTEE OF THE BOARD OF TRUSTEES.

BOSTON:

P. H. FOSTER & Co., Printers, 30 Oliver Street.

EXPLANATION.

To the Board of Trustees of the Massachusetts Agricultural College:

GENTLEMEN,—In preparing this edition of the Acts, both national and state, relating to the Agricultural College, your committee have followed the arrangement that is adopted by the Commissioner of Corporations of Massachusetts, in arranging the Corporation Acts. The various amendments and modifications are inserted with that portion of the principal Act to which they refer, but in such a way that the original Act can be seen as unmodified, and also in its modified form. Sections and parts of sections, however, which relate to matters that have been accomplished, are omitted; also, all State Acts or Resolves relating to appropriations which have been fulfilled, are omitted.

Provisions enclosed by brackets, thus, [ ] have been superseded or repealed. Important provisions are printed in italics.

Respectfully submitted,

W. H. BOWKER,
A. A. BRIGHAM,
GEO. NOYES,
Committee on By-Laws and codification of Acts relating to the Agricultural College.

BOSTON, February, 1886.

GENERAL UNITED STATES ACT

IN RELATION TO

AGRICULTURAL COLLEGES.

(United States Statutes, Vol. 12, Chap. 130, P. 503).

An Act donating Public Lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts.

Be it enacted by the Senate and House of Representatives of the United States of America in congress assembled: That there be granted to the several States, for the purpose hereinafter mentioned, an amount of public land, to be apportioned to each State a quantity equal to thirty thousand acres for each Senator and Representative in congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty: *provided,* that no mineral lands shall be selected or purchased under the provisions of this act.

Public lands, not mineral, to be given to each State.

SEC. 2. *And be it further enacted:* That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections, not less than one quarter of a section; * * * said scrip to be sold by said States and the proceeds thereof applied to the uses and purposes prescribed in this act, *and for no other use or purpose whatsoever:* * * *

How apportioned.

Scrip may be sold.

SEC. 4. *And be it further enacted:* That all moneys derived from the sale of the lands aforesaid, by the States to which the lands are apportioned, and from the sales of land scrip hereinbefore provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, *yielding not less than five per centum upon the par value of said stocks;* and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section fifth in this act), and the interest of which *shall be inviolably appropriated by each State which may take and claim the benefit of this act, to the endowment, support and maintenance of at least one college where the leading object shall be, without*

Moneys from sales of such lands to be invested: to constitute a perpetual fund; interest to be applied to support one college for agriculture and the mechanic arts.

excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

Conditions of this grant.

SEC. 5. *And be it further enacted*, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

Assent of State.

Diminution of funds to be made up by States.

FIRST. If *any portion of the fund invested, as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency, be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished;* and the annual interest shall be regularly applied without diminution to the purposes named in the fourth section of this act, except that a sum not exceeding ten per centum upon the amount received by any State under the provisions of this act, may be expended for the purchase of lands for sites or experimental farms, whenever authorized by the respective legislatures of said States.

Annual interest to be applied regularly.

No portion to be applied to buildings.

SECOND. *No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretence whatever, to the purchase, erection, preservation, or repair of any building or buildings.*

Any State claiming the benefits of this act to provide a college within five years.

THIRD. Any State which may take and claim the benefit of the provisions of this act shall provide within five years, at least not less than one college, as described in the fourth section of this act, or the grant to such State shall cease; and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchasers under the State shall be valid.

Annual report of college.

FOURTH. *An annual report is to be made regarding the progress of each college, recording any improvements and experiments made, with their cost and results, and such other matters, including State industrial and economical statistics, as may be supposed useful; one copy of which shall be transmitted by mail free, by each, to all the other colleges which may be endowed under the provisions of this act, and also one copy to the Secretary of the Interior.*

States in rebellion not to have benefit of this act.

SIXTH. No State while in a condition of rebellion or insurrection against the government of the United States shall be entitled to the benefit of this act.

Approved July 2, 1862.

OFFICERS DETAILED FOR COLLEGES.

(United States Rev. Statutes, 1878).

SEC. 1225. The President may, upon the application of any established college or university within the United States, having capacity to educate, at the same time, not less than one hundred and fifty male students, detail an officer of the Army to act as president, superintendent, or professor thereof; but the number of officers so detailed shall not exceed thirty at any time, and they shall be apportioned throughout the United States, as nearly as may be practicable, according to population. Officers so detailed shall be governed by general rules prescribed from time to time by the President. The Secretary of War is authorized to issue at his discretion and under proper regulations to be prescribed by him, out of any small arms or pieces of field artillery belonging to the Government and which can be spared for that purpose, such number of the same as may appear to be required for military instruction and practice by the students of any college or university under the provisions of this section; and the Secretary shall require a bond in each case, in double the value of the property, for the care and safe keeping thereof, and for the return of the same when required.

Officers for colleges.

Arms for colleges.

ENGINEERS IN NAVY DETAILED FOR COLLEGES.

(Sup. Revised U. S. Statutes, Vol. I, Chap. 105).

That, for the purpose of promoting a knowledge of steam-engineering and iron-ship building among the young men of the United States, the President may upon the application of an established scientific school or college within the United States, detail an officer from the engineer corps of the Navy as professor in such school or college: *provided*, that the number of officers so detailed shall not at any time exceed twenty-five, and such details shall be governed by rules to be prescribed from time to time by the President: *and provided further*, that such details may be withheld or withdrawn, whenever, in the judgment of the President, the interests of the public service shall so require.

Engineers in Navy may be detailed as professors in colleges, &c.

Not exceeding twenty-five.

May be withdrawn from detail.

Standard Weights and Measures for Agricultural Colleges.

(United States Statutes, Vol. 21, Res. 26).

That the Secretary of the Treasury be, and he is hereby directed to cause a complete set of all the weights and measures adopted as standards to be delivered to the governor of each State in the Union, for the use of agricultural colleges in the States, respectively, which have received a grant of lands from the United States, and also one set of the same for the use of the Smithsonian Institutions: *provided*, that the cost of each set shall not exceed two hundred dollars, and a sum sufficient to carry out the provisions of this resolution is hereby appropriated out of any money in the Treasury not otherwise appropriated.

Secretary of Treasury authorized to deliver standard weights and measures for agricultural colleges.

Proviso.

MASSACHUSETTS.

ACT ACCEPTING LAND GRANT.

(1863. Chap. 166).

An Act to Provide for the Reception of a Grant of Congress, and to Create a Fund for the Promotion of Education in Agriculture and the Mechanic Arts.

Be it enacted, etc., as follows:

Commonwealth accepts grant of U. S.

SEC. 1. The Commonwealth of Massachusetts hereby accepts a grant offered to it by the United States, as set forth and defined in an act of congress entitled "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," said act being chapter one hundred and thirty of the Statutes of the United States passed at the second session of the thirty-seventh congress, and approved by the President, July second, in the year eighteen hundred and sixty-two, upon the terms and conditions contained and set forth in said act of congress; and the governor of the Commonwealth is hereby authorized and instructed to give due notice thereof to the government of the United States.

Governor to give notice thereof.

To receive land scrip when issued.

SEC. 2. The governor is hereby authorized and instructed to receive, by himself or his order, from the Secretary of the Interior, or any other person authorized to issue the same, all the land scrip to which this Commonwealth may be entitled by the provisions of the before-mentioned act of congress.

To appoint commissioner to locate scrip.

SEC. 3. The governor, with the advice and consent of the council, is hereby authorized and instructed to appoint a commissioner, whose duty it shall be to locate, without unnecessary delay, all the land scrip which may come into the possession of the Commonwealth by virtue of this act, and to sell the same from time to time, on such terms as the governor and council may determine. * * *

Moneys received for scrip to be paid treasurer, and invested in fund for appropriations.

SEC. 4. All moneys received by virtue of this act, for the sale of land script, shall be immediately deposited with the treasurer of the Commonwealth, who shall invest and hold the same in accordance with the fourth section of the afore-mentioned act of congress. The moneys so invested *shall constitute a perpetual fund*, to be entitled the "Fund for the promotion of education in agriculture and the mechanic arts," which shall be appropriated and used in such manner as the legislature shall prescribe and in accordance with the said act of congress.

Approved April 18, 1863.

ACT OF INCORPORATION.

(1863. Chap. 220).

An Act to Incorporate the Trustees of the Massachusetts Agricultural College.

Be it enacted by the Senate and House of Representatives, in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Marshall P. Wilder, of Dorchester; Charles G. Davis, of Plymouth; Nathan Durfee, of Fall River; John Brooks, of Princeton; Henry Colt, of Pittsfield; William S. Southworth, of Lowell; Charles C. Sewall, of Medfield; Paoli Lathrop, of South Hadley; Phinehas Stedman, of Chicopee; Allen W. Dodge, of Hamilton; George Marston, of Barnstable; William B. Washburn, of Greenfield; Henry L. Whiting, of Tisbury, John B. King, of Nantucket, their associates and successors, are hereby constituted a body corporate by the name of[1] [the Trustees of] the Massachusetts Agricultural College, *the leading object of which shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life;* to be located as hereinafter provided; and they and their successors, and such as shall be duly elected members of said corporation, shall be and remain a body corporate by that name forever. And for the orderly conducting of the business of said corporation, the said trustees shall have power and authority from time to time, as occasion may require, to elect a president, vice-president, secretary and treasurer, and such other officers of said corporation as may be found necessary, and to declare the duties and tenures of their respective offices; [2][and also to remove any trustee from the same corporation, when, in their judgment, he shall be rendered incapable, by age, or otherwise, of discharging the duties of his office, or shall neglect or refuse to perform the same; and, whenever vacancies shall occur in the board of trustees, the legislature shall fill the same]: *provided*, nevertheless, that the number of members shall never be greater than fourteen, exclusive of the governor of the Commonwealth, the secretary of the board of education, the secretary of the board of agriculture, and the president of the faculty, each of whom shall be, *ex officio*, a member of said corporation.

Corporators.

Purpose.

Election of officers.

Removal of Trustees.

Vacancies in board.

Proviso.

[1. **Amended by Chap. 223, Sec. 1, Acts of 1864.**

The corporate name of "The Trustees of the Massachusetts Agricultural College" shall hereafter be "The Massachusetts Agricultural College."

Change of Corporate name.

[2. Amended by Chap. 50, Resolves of 1884.

Trustees appointed and removed by the governor and council.

Elected members to be divided into seven classes, by lot.

Appointments to fill vacancies to be for term of seven years.

* * * the power of appointment of members of said board of trustees, and the powers of removal defined in section one of chapter two hundred and twenty, of the acts of eighteen hundred and sixty-three, shall be hereafter exercised by the governor with the advice and consent of the council, instead of said board; and said board during the current year shall, by lot, divide the elected members thereof into seven classes of two members each, of whom one class shall vacate their office January first, eighteen hundred and eighty-five, and one class on the first day of January in each year thereafter; and such action shall be certified by the board to the governor and council; and appointments to fill the vacancies so created shall be made for the term of seven years.

Meetings.

SEC. 2. The said corporation shall have full power and authority to determine at what times and places their meetings shall be holden, and the manner of notifying the trustees to convene at such meetings; and also, from time to time, to elect a president of said college, and such professors, tutors, instructors and other officers of said college as they shall judge most for the interest thereof, and to determine the duties, salaries, emoluments, responsibilities and tenures of their several offices.

Officers of college.

Real estate.

And the said corporation are further empowered to purchase or erect, and keep in repair, such houses and other buildings as they shall judge necessary for the said college; and also, to make and ordain as occasion may require, reasonable rules, orders and by-laws not repugnent to the constitution and laws of this Commonwealth, with reasonable penalties, for the good government of the said college and for the regulation of their own body, and also to determine and regulate the course of instruction in said college, and to confer such appropriate degrees as they may determine and prescribe: *provided*, nevertheless, that no corporate business shall be transacted at any meeting unless one-half, at least, of the trustees are present.

By-laws.

Instruction.

Proviso.

Seal.

SEC. 3. The said corporation may have a common seal, which they may alter or renew at their pleasure, and all deeds sealed with the seal of said corporation, and signed by their order, shall, when made in their corporate name, be considered in law as the deeds of said corporation; and said corporation may sue and be sued in all actions, real, personal or mixed, and may prosecute the same to final judgment and execution, by the name of the Trustees of the Massachusetts Agricultural College; *and said corporation shall be capable of taking and holding in fee simple, or any less estate, by gift, grant, bequest, devise, or otherwise, any lands, tenements, or other estate, real or personal: provided, that the clear annual income of the same shall not exceed thirty thousand dollars.*

Corporation may sue and be sued.

May hold estate given or bequeathed.

Proviso.

Rents and profits of estate; how appropriated.

SEC. 4. The clear rents and profits of all the estate, real and personal, of which the said corporation shall be seized and possessed, shall be appropriated to the uses of said college in such

manner as shall most effectually promote the objects declared in the first section of this act, and as may be recommended from time to time by the said corporation, they conforming to the will of any donor or donors, in the application of any estate which may be given, devised or bequeathed, for any particular object connected with the college.

SEC. 5. The legislature of this Commonwealth may grant any further powers to, or alter, limit, annul or restrain, any of the powers vested by this act in the said corporation, as shall be found necessary to promote the best interests of the said college; and more especially may appoint and establish overseers or visitors of the said college, with all necessary powers for the better aid, preservation and government thereof. [1][The said corporation shall make an annual report of its condition, financial and otherwise, to the legislature at the commencement of its session.]

Legislature may enlarge or restrain powers of corporation and appoint overseers.

Annual report.

[1. Amended by Chap. 378, Acts of 1871.

"The college shall furnish to the governor and council a copy of the annual report of its operations."

SEC. 6. The board of trustees shall determine the location of said college in some suitable place within the limits of this Commonwealth, and shall purchase, or obtain, by gift, grant, or otherwise, in connection therewith, a tract of land containing at least one hundred acres, to be used as an experimental farm, or otherwise, so as best to promote the objects of the institution; *and in establishing the by-laws and regulations of said college, they shall make such provision for the manual labor of the students on said farm as they may deem just and reasonable.* The location, plan of organization, government and course of study prescribed for the college shall be subject to the approval of the [1][legislature.]

Location of college.

Land for farm, and manual labor thereon.

[1. Amended by Chap. 223, Sec. 2, Acts of 1864.

governor and council.

SEC. 7. One-tenth part of all the moneys which may be received by the state treasurer from the sale of land-scrip, by virtue of the provisions of the one hundred and thirtieth chapter of the acts of the thirty-seventh congress, at the second session thereof, approved July second, eighteen hundred and sixty-two, and of the laws of this Commonwealth, shall be paid to said college, and appropriated towards the purchase of said site or farm; *provided, nevertheless,* that the said college shall first secure by valid subscriptions or otherwise, the further sum of seventy-five thousand dollars, for the purpose of erecting suitable buildings thereon; and upon satisfactory evidence that this proviso has been complied with, the governor is authorized, from time to time, to draw his warrants therefor.

One-tenth proceeds of sale of certain land scrip to apply to purchase of farm.

Proviso.

Future support of college provided for.

SEC. 8. When the said college shall have been duly organized, located and established, as and for the purposes specified in this act, there shall be appropriated and paid to its treasurer each year, on the warrant of the governor, two-thirds of the annual interest or income, which may be received from the fund created under and by virtue of the act of congress named in the seventh section of this act, and the laws of this Commonwealth, accepting the provisions thereof, and relating to the same.

Property in case of dissolution, how to revert.

SEC. 9. In the event of a dissolution of said corporation, by its voluntary act at any time, the real and personal property belonging to the corporation shall revert and belong to the Commonwealth, to be held by the same, and be disposed of as it may see fit in the advancement of education in agriculture and the mechanic arts. The legislature shall have authority at any time to withhold the portion of the interest or income from said fund provided in this act, whenever the corporation shall cease or fail to maintain a college within the provisions and spirit of this act and the before-mentioned act of congress, or for any cause which they deem sufficient.

Approved April 29, 1863.

(1866. Chap. 263).

The Board of Agriculture Overseers of the College.

Board to be overseers of agricultural college.

SECTION 1. The board of agriculture shall constitute a board of overseers of the Massachusetts agricultural college, with powers and duties to be defined and fixed by the governor and council. But said board of overseers shall have no powers granted to control the action of the trustees of said college, or to negative their powers and duties, as defined by chapter two hundred and twenty of the acts of the year eighteen hundred and sixty-three.

May locate cabinet and library.

Meetings.

SEC. 2. The board of agriculture is hereby authorized to locate the state agricultural cabinet and library, and to hold its meetings in said college.

President of college a member of board.

SEC. 3. The president of the agricultural college is hereby constituted a member, *ex officio*, of the board of agriculture.

Approved May 26, 1866.

(1868. Resolves, Chap. 8)

Resolve in relation to the issue of Arms to the Massachusetts Agricultural College.

Governor may issue arms, &c. to agricultural college.

Resolved, That his excellency the governor be authorized to issue to the president and trustees of the Massachusetts agricultural college such arms and equipments, for the use of that institution, as in his judgment may be so distributed without detriment to the militia service: *provided*, the said president and trustees shall be held personally responsible for the same.

Approved March 11, 1868.

Expenses of the College. Personal Liability of Trustees.

(1879. Chap. 258.)

SECTION 2. The expenses of the institution shall be kept within the income to which it is legally entitled, and the board of trustees shall be personally liable for any debt contracted for any purpose in excess of the assured income of the college, or for the payment of which money has not been previously provided.

Expenses to be kept within income.

Personal liability of trustees.

EXPERIMENT STATION AND THE COLLEGE.

(1882. Chap. 212).

SECTION 1. An agricultural experiment station shall be established and maintained at the Massachusetts agricultural college in the town of Amherst.

Experiment station established.

SEC. 2. The management of said station shall be vested in a board of control of seven persons, of which board the governor shall be president, *ex officio*, and of which two members shall be elected from the state board of agriculture, by said board of agriculture; two from the trustees of the Massachusetts agricultural college, by said trustees; one from the Massachusetts society for promoting agriculture, by said society; and the remaining member shall be the president of the Massachusetts agricultural college. The said board shall choose a secretary and treasurer.

Management vested in board of control.

Remaining member president of the college.

SEC. 4. The said board of control shall at its first meeting arrange for the retiring of two members each year, and the successors of such retiring members shall be elected by the bodies respectively which such retiring members represent: *provided*, that in the years in which, under such arrangement, the president of the Massachusetts agricultural college would be retired, the said president shall remain and one member only shall be retired.

Two members of board to retire each year.

President of college to remain.

EIGHTY FREE SCHOLARSHIPS.

(Resolves of 1886. Chap. 34).

Resolved, That there shall be paid annually, from the treasury of the Commonwealth to the treasurer of the Massachusetts agricultural college, at Amherst, the sum of ten thousand dollars, to enable the trustees of said college to provide for the students of said institution the theoretical and practical education required by its charter and the law of the United States relating thereto.

$10,000 paid annually.

Resolved, That annually the scholarships established by chapter forty-six of the Resolves of the year eighteen hundred eighty-three be given and continued in accordance with the provisions of said chapter.

Provisions of Chap. 46, Acts 1883. (See next page).

Approved April 16, 1886.

Conditions of Awarding Free Scholarships.

(Resolves of 1883. Chap. 46).

Persons in this Commonwealth

Examinations.

Assignment to Senatorial districts.

May be distributed by the President.

The eighty free scholarships * to be given by appointment to persons in this Commonwealth, after a competitive examination, under rules prescribed by the president of the college, at such time and place as the senator then in office, from each district, shall designate; and the said scholarships shall be assigned equally to each senatorial district; but if there shall be less than two successful applicants for scholarships from any senatorial district, such scholarships may be distributed by the president of the college equally among the other districts, as nearly as possible; but no applicant shall be entitled to a scholarship unless he shall pass an examination in accordance with the rules to be established as hereinbefore provided.

Approved Jan. 2, 1883.

BY-LAWS

OF THE

Massachusetts Agricultural College Corporation.

ADOPTED FEBRUARY 5, 1886.

OFFICERS.

ARTICLE I. The Officers of this Corporation shall be a President, Vice-President, Secretary, Treasurer, Auditor of Accounts, and three Standing Committees, consisting of five members each, to wit: (1) a Committee on Finance and Buildings; (2) a Committee on Course of Study and Faculty; and (3), a Committee on Farm and Horticultural Departments, all of whom shall be elected annually by ballot.

Special Committees may be chosen from time to time as the Trustees at any meeting may think expedient.

DUTIES OF OFFICERS.

ARTICLE II. The Officers of this Corporation are charged with the duties, and entitled to the rights and privileges which belong, by general consent and parliamentary custom, to their respective offices.

The Treasurer, in addition to being the custodian of all the funds which belong to the College, so far as they come into his possession under the acts of the Legislature, shall also collect and receive all moneys and valuables due the College from whatever source, and pay out and disburse the same; but all disbursements shall be made in accordance with the appropriations authorized by vote of the Trustees, and all payments under these appropriations shall first be approved by the President, and if they amount to more than $500 for any one purpose, except for salaries and other fixed sums, such payments shall also be subject to the approval of the Committee on Finance and Buildings. The Treasurer shall also furnish to this Committee, a monthly statement of all receipts and disbursements, and the balance, if any, in hand.

The Treasurer shall keep the Corporate Seal, all deeds and other papers relating to the financial affairs of the College; he shall keep the buildings and other property of the College insured in such sums as the Board may from time to time direct; he shall keep full and accurate accounts of all receipts and disbursements, subject at all times to the inspection of the Board, or any committee or officer thereof. And to assist him in these duties, he may employ a bursar at the College, who shall be under his direction, and for whose acts he shall be responsible, but the services of said bursar shall be paid for by the Treasurer out of his salary.

The Treasurer shall give a bond in the sum of $10,000, the sureties on which shall be men from outside of this Board, and approved by the Committee on Finance and Buildings.

MEETINGS OF THE BOARD.

ARTICLE III. There shall be two stated meetings of the Trustees in each year; the first to be held at the State House, or at such place as the Trustees at any previous meeting may determine, on the second Thursday of January, and to be known

as the Annual Meeting, at which officers shall be chosen, and the annual report made. The second meeting shall be held at Amherst during the week of the annual commencement, the day and hour of said meeting to be fixed by the President of the College in consultation with the Secretary of the Board.

Special meetings may be called at any time upon the written request of the Governor, or of any three members of the Board of Trustees; such request shall be made to the Secretary, who shall thereupon give notice of the same, stating therein the object for which the meeting is called.

Notice of all meetings of the Board shall be given by the Secretary, in writing, by mail, to each member thereof, at least seven days prior to the date of the meeting.

It shall be the duty of every member of the Board to visit the College at least once every year.

MEETINGS OF COMMITTEES.

ARTICLE IV. The three Standing Committees shall hold at least two stated meetings at the College in each year, as follows:

The Commiteee on Finance and Buildings during the months of June and December.

The Committee on Course of Study and Faculty during the months of June and November.

The Committee on Farm and Horticultural Departments during the months of April and October.

Special meetings of these Committees may be held elsewhere at their discretion.

APPROPRIATIONS.

ARTICLE V. To carry on the work of the College in its various departments, the Trustees shall annually, or oftener if deemed expedient, appropriate, by vote, out of the income of the College legally at their disposal, stated sums of money for each department of the College, including a fund for contingent expenses, but the aggregate of such appropriations shall not exceed the total annual income of the College applicable for these purposes. And the officers of the College and heads of departments shall, before the annual meeting of the Trustees, present to the Committee on Finance and Building, a statement of the wants of their departments, and said Committee shall thereupon consider the same and report at the annual meeting such appropriations as the Committee shall deem expedient to recommend for the ensuing year.

THE FACULTY — VOTING.

ARTICLE VI. The Faculty of the College shall consist of the President of the College and those instructors who hold full professorships, and shall be elected to their respective positions by the Board of Trustees whenever vacancies occur or whenever the Board deem it expedient; but at the written request of five members of the Board, an election shall take place in any office or department of instruction in the College, provided such request is filed with the Secretary at least ninety days before any meeting of the board, stating the office or department in which such election is requested, and the time it is desired it shall take place; and upon receipt of such request the Secretary of the Board shall immediately notify the members thereof, and also the incumbent of the office or head of department in which said election is requested to be held, giving each the reasons for such request, but the names of the Trustees signing the request shall not appear in the notice issued by the Secretary, nor be communicated to any one.

A full professorship in the Agricultural College shall be understood to be a position in which its occupant is placed at the head of a particular department of instruction, and such professorship can be created only by vote of the Trustees. Any person elected to a full professorship shall thereupon become a member of the Faculty, and be entitled to a voice and vote in the proceedings of that body.

Associate professors, tutors and lecturers may be engaged from time to time by the President of the College, with the advice and consent of the Committee on Course of Study and Faculty, said engagements to be made subject to the confirmation of the Board of Trustees; and such associate professors, tutors and lecturers shall be included in the list of the Faculty printed in the annual catalogue and entitled to take part in Faculty meetings, but not entitled to vote therein, except in the absence of the head of the department in which they are employed, when they may represent that department by vote or otherwise, if the majority of the Faculty assent thereto; but no department shall be represented at any meeting by more than one vote.

DUTIES OF THE FACULTY.

ARTICLE VII. The President of the College shall be the chief executive officer of the Institution, and, besides teaching in some department, shall have general supervision of all departments of instruction and discipline, and all matters pertaining to the general welfare of the College and the students. He shall approve all bills and claims against the College, and shall be responsible for the proper care of the grounds and buildings, and all apparatus and personal property pertaining thereto; and for this purpose, and for the purpose of carrying on the work of the College, he may make requisition on the Treasurer, under the appropriations by the Trustees, for such sums of money as shall be necessary from time to time; but such requisitions, if exceeding the sum of $500 for any one purpose, except for salaries and other fixed sums, shall be subject to the approval of the Committee on Finance and Buildings. All requisitions by the President must be made in writing, and state the purpose for which the money is desired.

The President shall, with the advice and consent of his associates of the Faculty, establish such rules and regulations for the government of the students and for the conduct of the work of the College as shall in their judgment best subserve the interests of both. Also, "They shall make such provision for the manual labor of the students on the farm as they may deem just and reasonable." (See Acts of Massachusetts Legislature, 1863, Chap. 220, Sec. 6).

The members of the Faculty who are the heads of departments of instruction, shall, under the supervision of the President, be responsible for their departments, including the custody and care of the apparatus belonging to their respective departments.

Associate professors, tutors or superintendents shall be under the direct supervision of the heads of the departments in which they are working and answerable to them, but this shall not debar such associate professors, tutors or superintendents from presenting to the Faculty corresponding reports of their work, or any views relating to the same.

It shall be the duty of the head of each department, or his assistant, to take an inventory at the end of each year, of all apparatus and personal property belonging in his department, and forward it to the President, who, after examination and approval, shall file the same with the Treasurer as a part of the accounts of the College, and in the case of the farm and horticultural departments, this inventory shall include an account of the stock and produce at a fair market valuation.

MEETINGS OF THE FACULTY.

ARTICLE VIII. The Faculty of the College shall organize, with the President of the College as President, and shall choose annually a Secretary and such other officers as they deem expedient, and they shall be required to hold at least two meetings a month during each term of the collegiate year, and a record of each meeting, with the names of the instructors present shall be kept by the Secretary, open at all times to the inspection of the Board of Trustees, or any member thereof.

It shall be the duty of the members of the Faculty and all instructors and lecturers in the College living in Amherst, to attend regularly the Faculty meetings, and take part therein, unless excused by the President.

MATTERS OF IMPORTANCE—APPEAL.

ARTICLE IX. All important matters relating to the work of the College, its discipline, instruction, and well-being of the students, also all plans touching the arrangement of the grounds and buildings, shall, as a rule, be considered by the Faculty as a body, and in case of disagreement shall be decided by vote. In the event of a tie vote, or the inability to agree from any cause, an appeal may be taken to the committee of the Trustees before whom the matter would properly come, or directly to the full Board.

Any professor, associate professor, tutor or superintendent, who is dissatisfied with any decision of the Faculty or the President of the College, or who has any matter which he would like to bring before the Trustees, may present the same in writing or in person to the committee of the Trustees before whom the matter would properly come, or directly to the full Board, as he may elect.

VACANCIES IN THE FACULTY.

ARTICLE X. In the event of a vacancy in the office of President of the College, or during his absence or inability to attend to the duties of that office, the senior professor of the Faculty shall perform the duties of President until some member of the Faculty or other suitable person is appointed President *pro tem* by the Board of Trustees, or until the office is regularly filled by the Board.

In the event of a vacancy in any chair of instruction, or during the absence of any instructor, the President, with the advice of the Faculty, may appoint an associate professor or some suitable instructor to perform the duties of the absentee until his return or until the vacancy is filled by the Board of Trustees. Such appointee shall be entitled, for the time being, to a vote in the Faculty as though regularly elected to a full professorship.

PAYMENT OF FACULTY.

ARTICLE XI. Instructors in the College occupying full professorships, and associate professors, shall draw pay quarterly at a fixed yearly rate from the time they enter upon their duties, and thereafter from the first of July in each year. Other instructors, tutors and lecturers shall draw pay for such length of time, and in such manner, as is agreed upon at the time they are engaged.

CONFERRING DEGREES.

ARTICLE XII. The Board of Trustees shall confer such degrees upon graduates and former students of the College as the Faculty from time to time may recommend, provided such candidates are deemed by the Board worthy of receiving such degrees. The Board may also confer such honorary degrees as shall in their judgment best subserve the interests of the College and the public.

QUORUM.

ARTICLE XIII. At all meetings of the Board, nine members must be present to constitute a quorum. (See Chap. 220, Sec. 2, Acts of 1863).

AMENDMENTS.

ARTICLE XIV. These By-Laws may be changed or amended, and additional By-Laws may be adopted at any annual meeting of the Trustees, and at any regular meeting of the Trustees, provided notice has been given in writing to each of the Trustees at least seven days before such meeting, that the subject of the By-Laws will be brought before the meeting, and such notice shall be given by the Secretary, stating the change proposed.

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